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User Manual

Intelligent Fan Units - 1U & 33U Door Mount

Legal Information

First English printing, October 2002

Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. We are not liable for any injury or loss that results from the use of this equipment.

Safety Instructions

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

- Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.
- Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40º Celsius (104º Fahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing damage to other equipment or injury to persons nearby.
- When the equipment is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.
- Arrange the equipment's power cord in such a way that others won't trip or fall over it.
- If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labeled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.
- Observe all precautions and warnings attached to the equipment.
- If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being damaged by transient over-voltage.
- Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.
- Only qualified service personnel should open the chassis. Opening it yourself could damage the equipment and invalidate its warranty.
- If any part of the equipment becomes damaged or stops functioning, have it checked by qualified service personnel.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
  - ☐ Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
  - ☐ Repair or attempted repair by anyone not authorized by us.
  - ☐ Any damage of the product due to shipment.
  - ☐ Removal or installation of the product.
  - ☐ Causes external to the product, such as electric power fluctuation or failure.
  - ☐ Use of supplies or parts not meeting our specifications.
  - ☐ Normal wear and tear.
  - ☐ Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-position or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

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Content

*** Unpacking

The equipment comes with the standard parts shown on the package contents. Check and make sure they are included and in good condition. If anything is missing, or damage, contact the supplier immediately.

Part I. Installation P.1

< 1.1 > 1U Fan Tray

< 1.2 > 33U Door Mount Fan Panel

Part II. Hardware P.6

< 2.1 > Key Features

< 2.2 > Fan Kit Specification

< 2.3 > Master IP Fan Unit Model & Specification

RA4015-3-IP (1U Fan Tray with 3 fans)

RA4015-6-IP (1U Fan Tray with 6 fans)

RA4015-9-IP (1U Fan Tray with 9 fans)

RA4017-6-IP (33U Door Mount Fan Panel with 6 fans)

RA4017-9-IP (33U Door Mount Fan Panel with 9 fans)

Specification Table

< 2.4 > Remote Fan Unit Model & Specification

RA4015-3-R (1U Fan Tray with 3 fans)

RA4015-6-R (1U Fan Tray with 6 fans)

RA4015-9-R (1U Fan Tray with 9 fans)

RA4017-6-R (33U Door Mount Fan Panel with 6 fans)

RA4017-9-R (33U Door Mount Fan Panel with 9 fans)

Specification Table

< 2.5 > Daisy Chain Connection

< 2.6 > Audio Temperature Alarm Setting

< 2.7 > Temperature Sensor

< 2.8 > Alarm Temperature Setting

< 2.9 > Fan Unit CFM Setting

Part III. Software P.25

< 3.1 > Key Features

< 3.2 > Master IP Configuration

< 3.3 > Hardware Requirements of the Management PC

< 3.4 > Supported OS Platform & Language

< 3.5 > Software Download

< 3.6 > First Time Start-up Setting

< 3.7 > Change Port no. of Web Server

Part IV. System Setup & Remote Access P.31

< 4.1 > System Setup

< 4.2 > Remote Access

Part V. Software Usage & Operation P.38

Part VI. Events / Log / Report P.41

Part VII. SNMP P.44

Part VIII. FAQ P.46

Part IX. Troubleshooting P.48

< Part I > Installation

< 1.1 > 1U Fan Tray

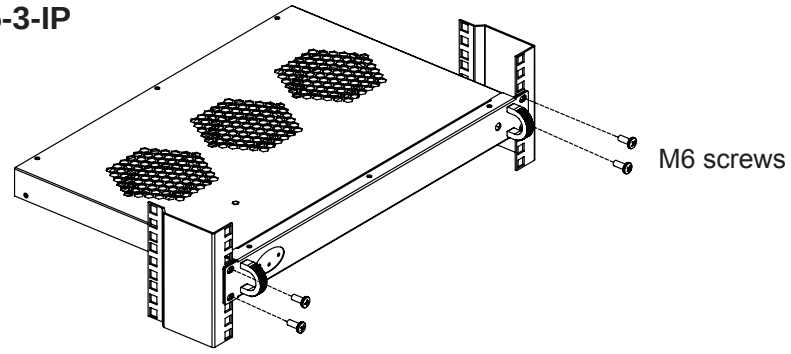
Package Content

- 1U rackmount fan tray x 1 pc
- Temp. sensor x 1 pc
- 6 ft power cord x 1 pc
- Rear mounting bracket x 1 pair

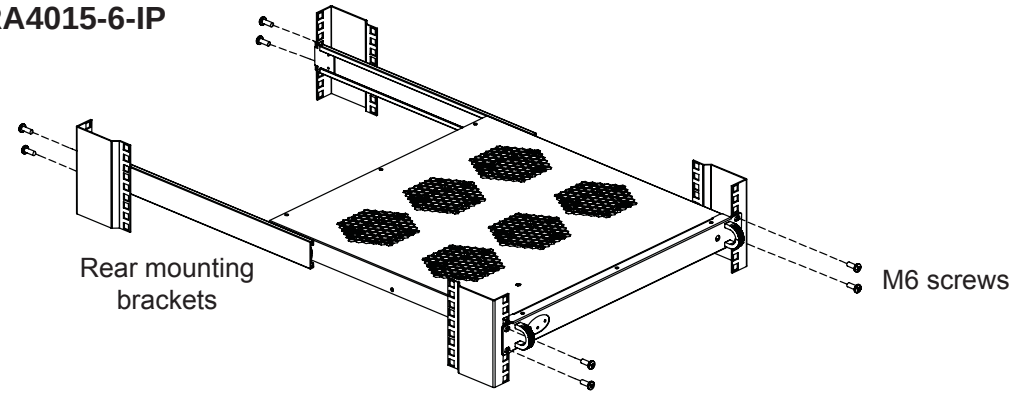
  * Bracket for RA4015-6 / -9 Series only
  * M6 screws for fixing are not included

Installation

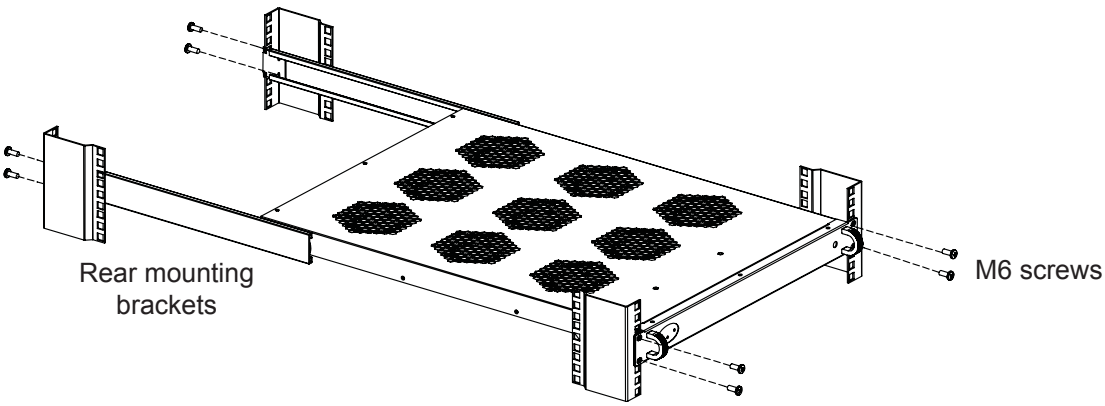
RA4015-3-R / RA4015-3-IP



RA4015-6-R / RA4015-6-IP



RA4015-9-R / RA4015-9-IP

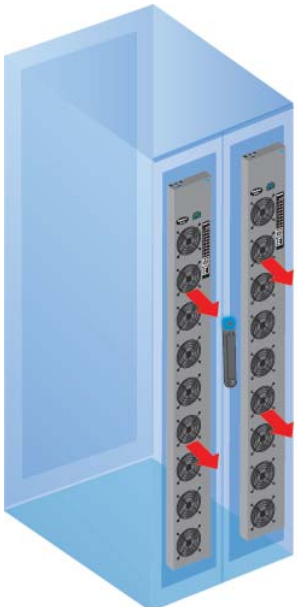


< 1.2 > 33U Door Mount Fan Panel

RA4017-R & RA4017-IP Door mount Fan Panel are typically installed on the outside of a cabinet's rear perforated door to improve extraction of heat from high density cabinet.

The unit can be attached to most 42U or taller cabinets. If aisle is relatively narrow for exterior mounting, the unit may be installed on the inside of the perforated door. For details, please refer to the model table below :

Front Door
Cool Air In



Rear Door
Hot Air Out

Model	Installation	Airflow	Purpose
RA4017-6-IP-A **RA4017-9-IP-A** **RA4017-6-R-A** **RA4017-9-R-A**	Rear door outside Front door inside	Extract airflow Intake airflow	Exhaust air out from cabinet Cool air in from aisle
RA4017-6-IP-B **RA4017-9-IP-B** **RA4017-6-R-B** **RA4017-9-R-B**	Front door outside Rear door inside	Intake airflow Extract airflow	Cool air in from aisle Exhaust air out from cabinet

Package Content

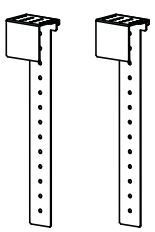
- 33U door mount fan panel x 1 pc
- Temp. sensor x 1 pc
- 6 ft power cord x 1 pc
- User Manual x 1 pc
- Mounting screw x 6 pcs (attached with the unit)
- Air blocking material x 1 pc

Optional mounting kit

Hanging bracket kit

Part no. : PT-HFBK

* For installation, please refer to p.5



< 1.2 > 33U Door Mount Fan Panel

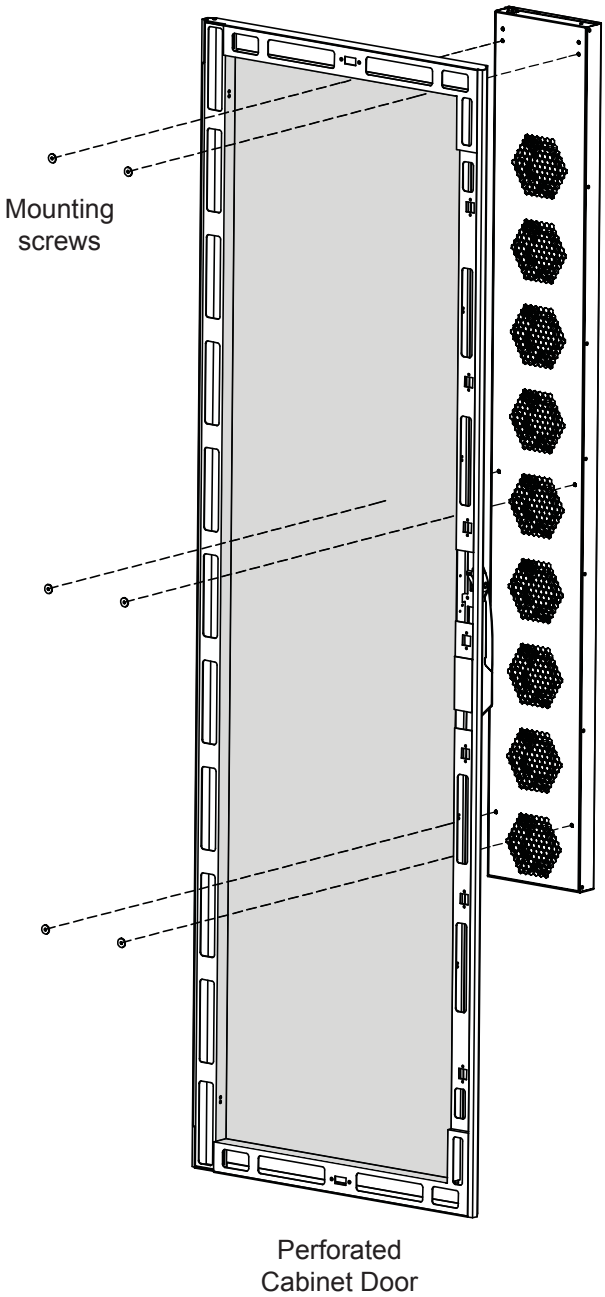
Caution - Power off the fans if the door is to be opened for maintenence or service of items within the cabinet. The fans have finger guards but care must be excerised when working around spinning fans. Keep hair, fingers and other small objects away from the spinning blades.

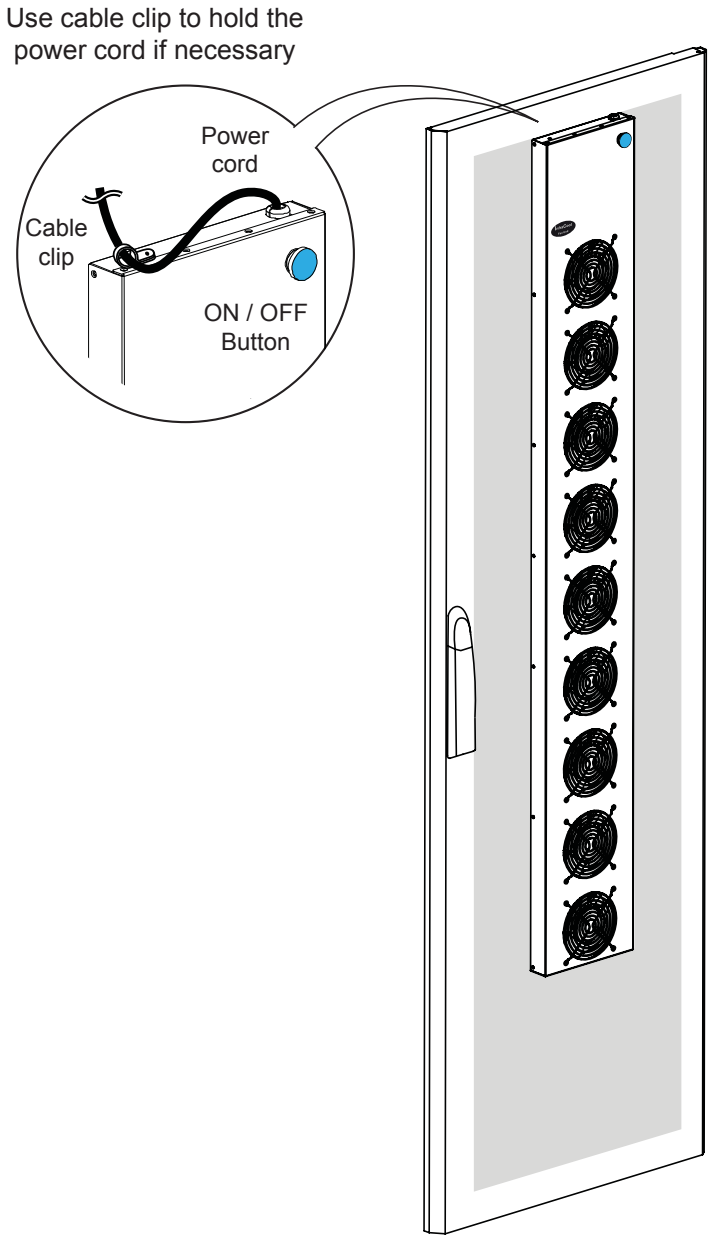
< 1.2 > 33U Door Mount Fan Panel

Installation steps

The weight of the unit is less than 5.5 kg, so in most cases, holes in perforated cabinet doors can be used to mount the unit.

1. Lift the unit to the desired position.
2. Place attached 6 screws then through the door and tighten them.
3. To eliminate bypass air to maximize heat removal from the cabinet, cut the air blocking material to the size necessary with cutter or scissors then apply the material to the inside surface of the door with screws or adhesive backing. Ensure all open perforations are covered by the material.
4. Connect the power cord to the PDU of the cabinet through the cable entry hole on the rear top of the cabinet.
5. If no cable entry on the top, the unit may be installed on the inside but the model need to be changed. Please refer to P.2 .

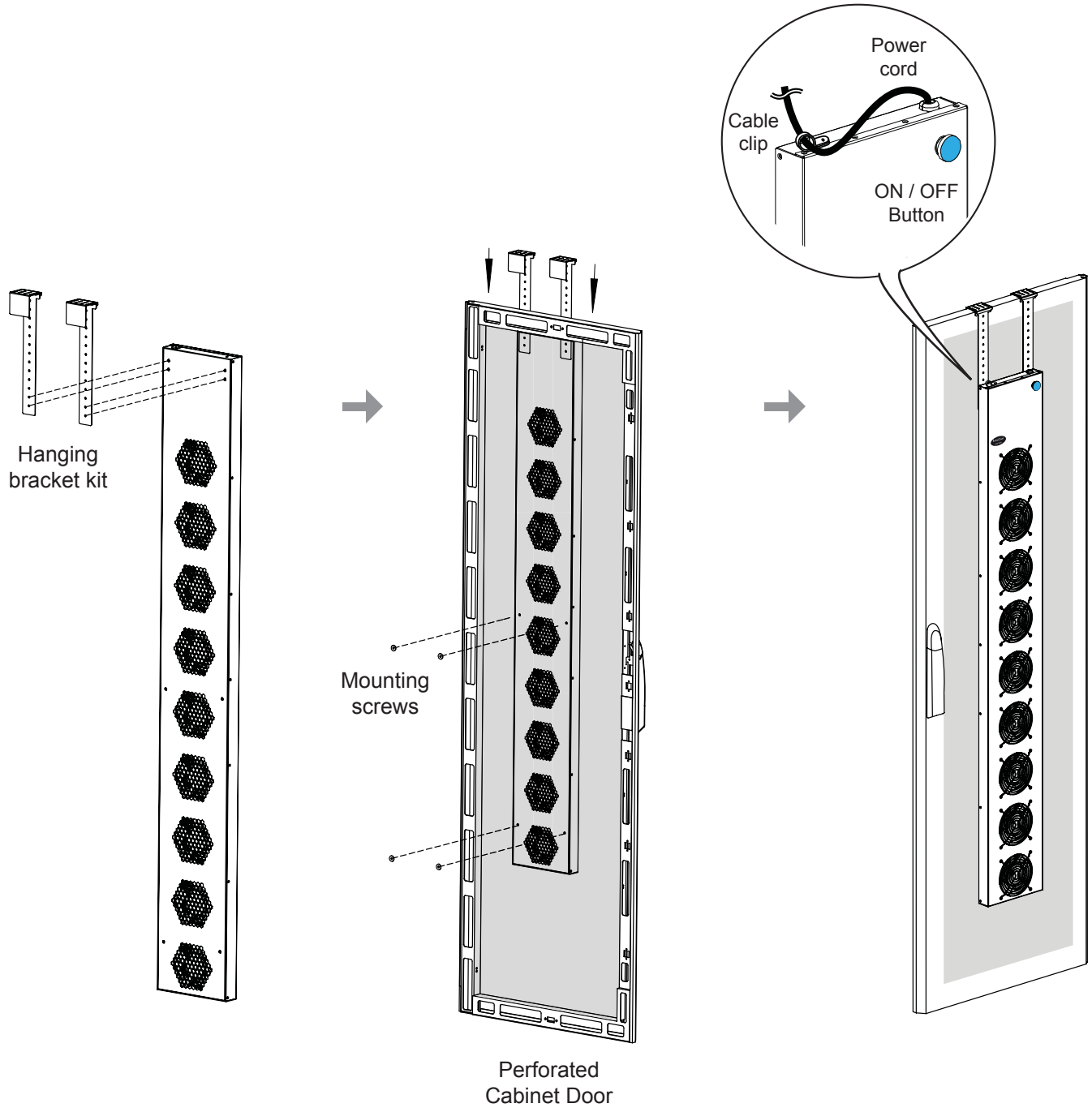




< 1.2 > 33U Door Mount Fan Panel

Hanging bracket installation

1. Install the hanging bracket kit at the rear side of the fan panel.
2. Hang the unit on the door.
3. Place attached 4 screws then through the door and tighten them.
4. Follow steps 3 - 5 on P.4 .



< Part II > Hardware

< 2.1 > Key Features

	Master IP Fan Unit	Remote Fan Unit
Daisy Chain Position	**1st Level**	**2nd - 16th Level**
IP Port	✓	
Daisy Chain Port - LINK		✓
Daisy Chain Port - OUT	✓	✓
Temp. Port	✓	✓
Temp. Sensor	✓	✓
Control Panel :		
- Individual Fan On / Off	✓	✓
- Alarm Temp. Setting	✓	✓
- Unit CFM (fan speed) Setting	✓	✓
- Temperature LED	✓	✓
- Fan Status LED	✓	✓
- CFM Status LED	✓	✓
1U Fan Tray	**3 / 6 / 9 fans**	**3 / 6 / 9 fans**
Door Mount Fan Panel	**6 / 9 fans**	**6 / 9 fans**

< 2.2 > Fan Kit Specification

Fan Specification

Air Delivery :	108 CFM
Rate Speed :	3000 rpm, +/-10%
Rated Voltage :	12V DC
Rated Current :	350 mA
Noise Level :	41 dB
Dimension :	120 x 120 x 25 mm
Bearing System :	Dual ball bearing

< 2.3 > Master IP Fan Unit Model

Model : RA4015-3-IP

1U Fan Tray with 3 fans

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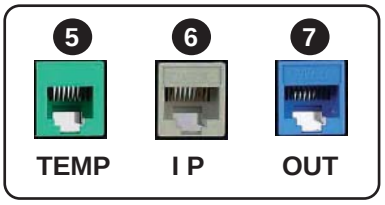
2 - Unit CFM Status LED
- Unit CFM Setting

4 - DIP switch for daisy chain level setting

1
- Individual fan status
- Individual fan On / Off buttons

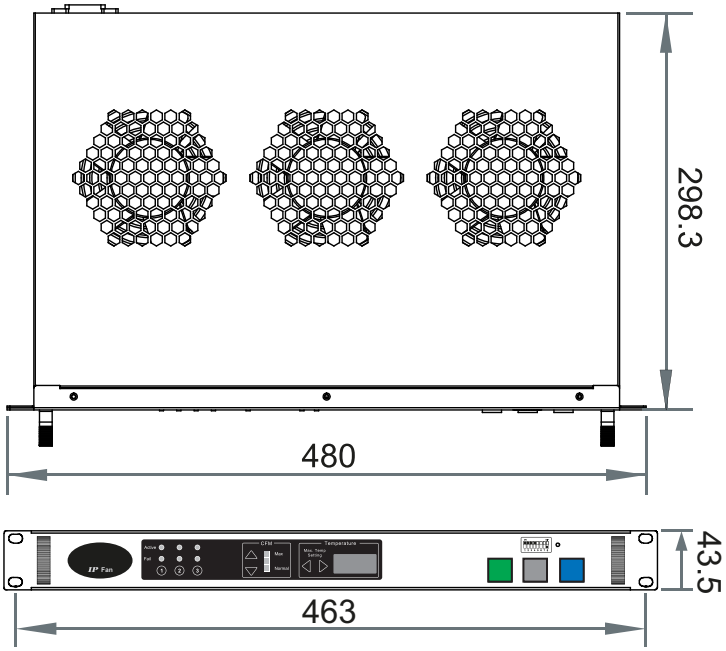
3
- Buttons for Alarm Temp. Setting
- Temp. LED display



⑤ - Temp. port bundled w/ a temp. sensor

⑥ - IP port for remote access
- Only master fan unit provides an IP port
- 1 x IP port allows access to 16 levels

⑦ - Daisy chain port for connecting to the link port of the 2nd level fan unit



< 2.3 > Master IP Fan Unit Model

Model : RA4015-6-IP

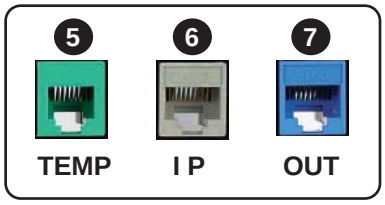
1U Fan Tray with 6 fans

2 - Unit CFM Status LED
- Unit CFM Setting

4 - DIP switch for daisy chain level setting

1 - Individual fan status
- Individual fan On / Off buttons

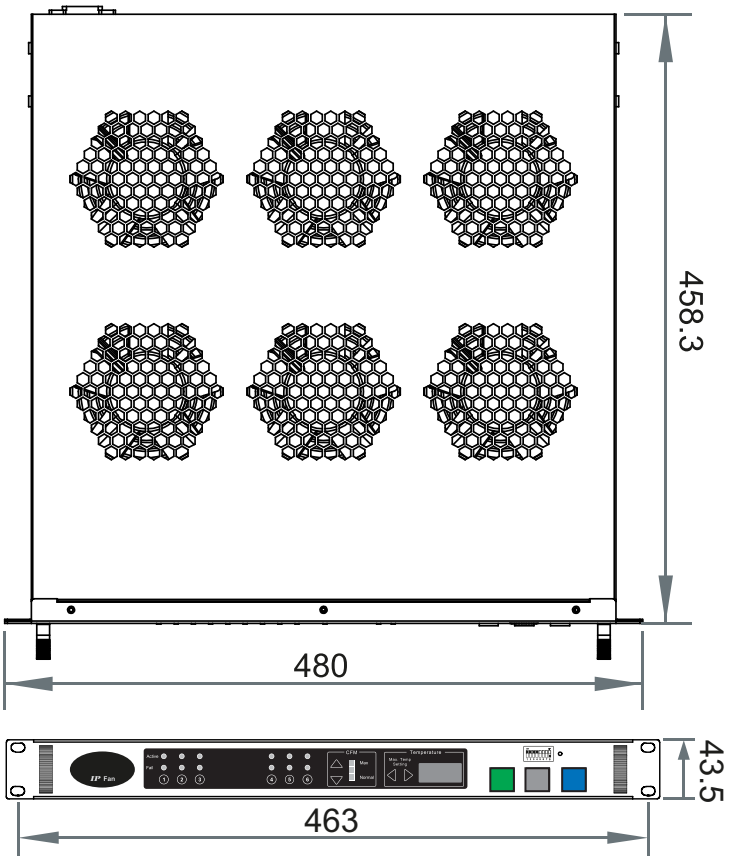
3 - Buttons for Alarm Temp. Setting
- Temp. LED display



⑤ - Temp. port bundled w/ a temp. sensor

⑥ - IP port for remote access
- Only master fan unit provides an IP port
- 1 x IP port allows access to 16 levels

⑦ - Daisy chain port for connecting to the link port of the 2nd level fan unit



< 2.3 > Master IP Fan Unit Model

Model : RA4015-9-IP

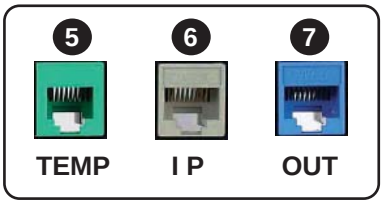
1U Fan Tray with 9 fans

2 - Unit CFM Status LED
- Unit CFM Setting

4 - DIP switch for daisy chain level setting

1 - Individual fan status
- Individual fan On / Off buttons

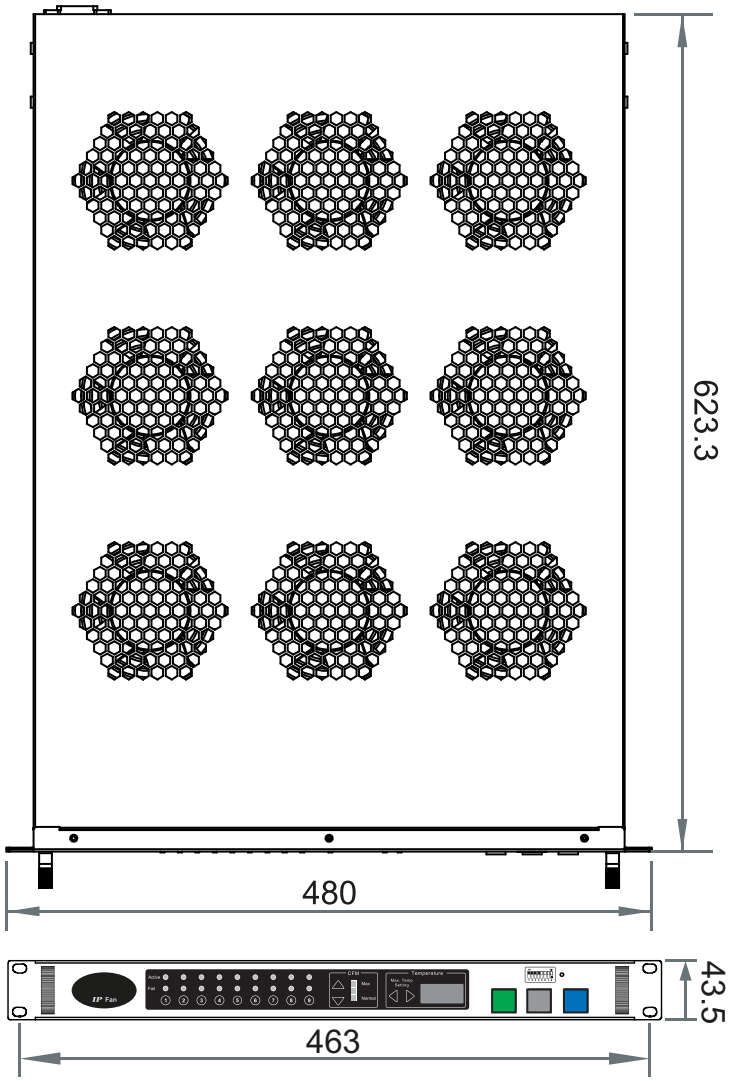
3 - Buttons for Alarm Temp. Setting
- Temp. LED display



⑤ - Temp. port bundled w/ a temp. sensor

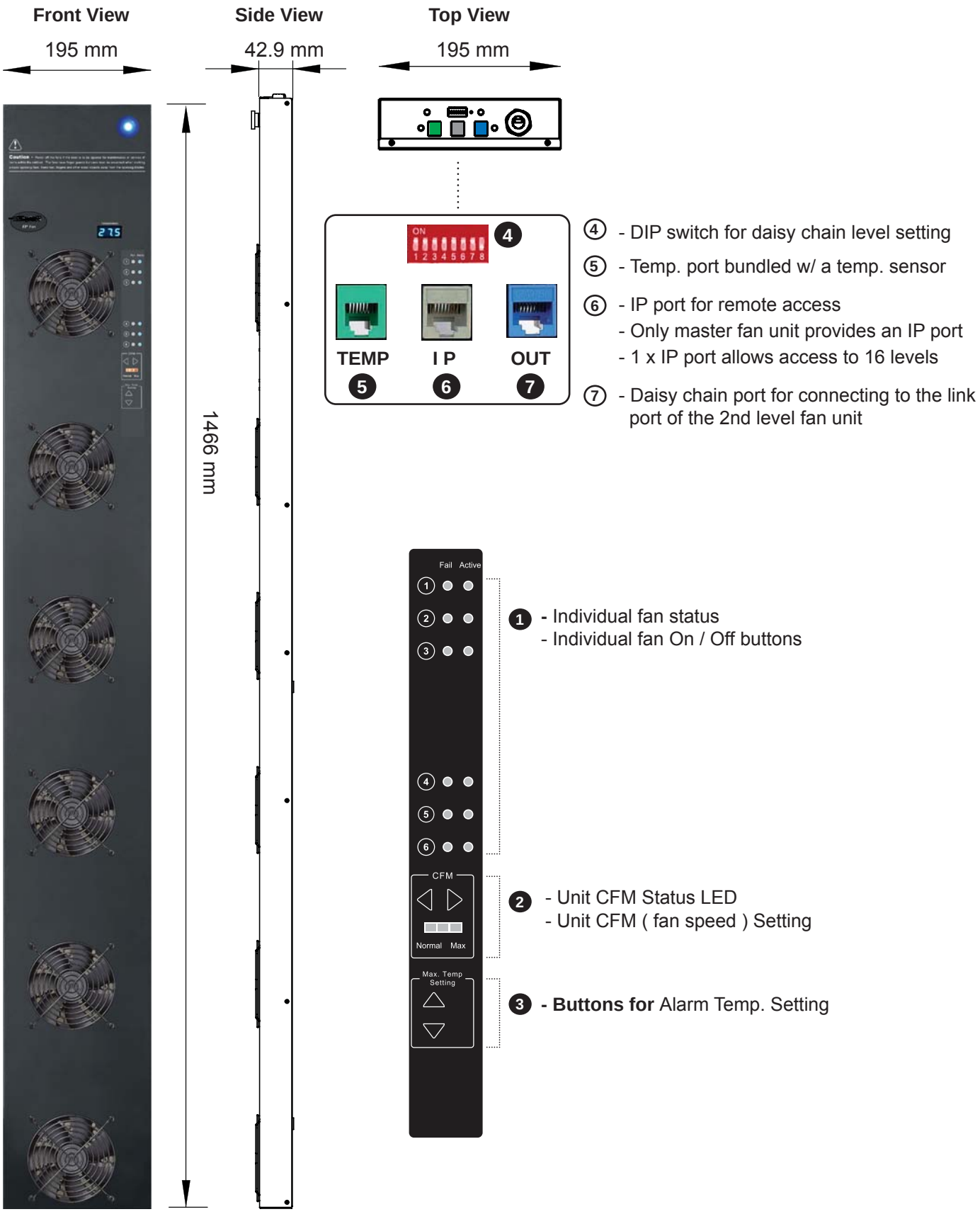
⑥ - IP port for remote access
- Only master fan unit provides an IP port
- 1 x IP port allows access to 16 levels

⑦ - Daisy chain port for connecting to the link port of the 2nd level fan unit



< 2.3 > Master IP Fan Unit Model

Model : RA4017-6-IP 33U Door Mount Fan Panel with 6 fans



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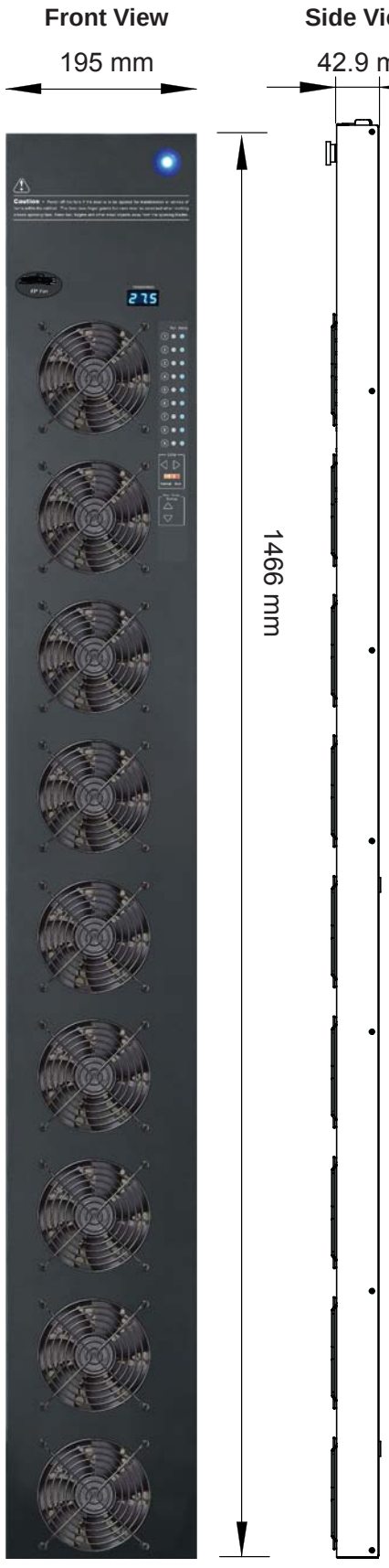
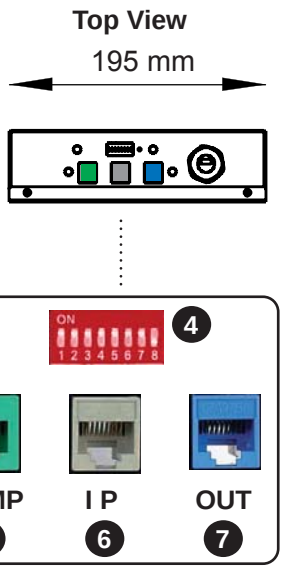
< 2.3 > Master IP Fan Unit Model

Model : RA4017-9-IP 33U Door Mount Fan Panel with 9 fans



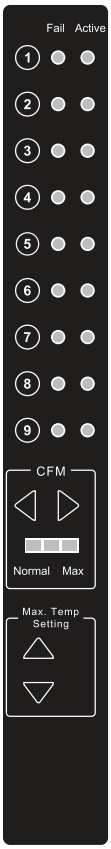


④ - DIP switch for daisy chain level setting

⑤ - Temp. port bundled w/ a temp. sensor

⑥ - IP port for remote access
- Only master fan unit provides an IP port
- 1 x IP port allows access to 16 levels

⑦ - Daisy chain port for connecting to the link port of the 2nd level fan unit



❶ - Individual fan status
- Individual fan On / Off buttons

❷ - Unit CFM Status LED
- Unit CFM (fan speed) Setting

❸ - **Buttons for** Alarm Temp. Setting

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< 2.3 > Master IP Fan Unit Specification Table

Master IP Fan	Model	**RA4015_IP**	**RA4017_IP**
	No. of Fan	3 / 6 / 9	6 / 9
	Mounting	1U	Door mount
	CFM Level	Normal / High / Max.	
	Individual Fan ON / OFF	Yes	
	Individual Fan CFM	108 CFM	
	Unit CFM (Approximately)	324 / 648 / 972 CFM	648 / 972 CFM
	IP Remote Access	Yes	
	Daisy Chain Level	1st level, cascade remote fan (2nd ~ 16th level)	

Temperature Sensor	Temperature Port	1 x temperature sensor port (sensor bundled)
	Measurement Range	0 to 99.9°C
	Measurement Accuracy	+/- 1.5%
	Temperature Alarm	Yes

Power	Input	100V or 240V AC at 50 or 60Hz via IEC type cord	
	Consumption	20W / 40W / 60W	40W / 60W

Environmental Conditions	Operating	0 to 50°C
	Storage	-5 to 60°C
	Relative Humidity	90%, non-condensing
	Shock	50G peak acceleration (11ms, half-sine wave)
	Vibration	58~100Hz / 0.98G (11ms / cycle)

Dimensions	**Model**	Product Dimension
	RA4015-3-IP	480 x 298.3 x 43.5 mm 18.9 x 11.7 x 1.71 inch
	RA4015-6-IP	480 x 458.3 x 43.5 mm 18.9 x 18 x 1.71 inch
	RA4015-9-IP	480 x 623.3 x 43.5 mm 18.9 x 24.5 x 1.71 inch
	RA4017-6-IP	195 x 42.9 x 1466 mm 7.7 x 1.7 x 57.7 inch
	RA4017-9-IP	195 x 42.9 x 1466 mm 7.7 x 1.7 x 57.7 inch

Weight	**Model**	Net Weight
	RA4015-3-IP	4 kgs / 8.8 lbs
	RA4015-6-IP	6.8 kgs / 15 lbs
	RA4015-9-IP	9 kgs / 19.8 lbs
	RA4017-6-IP	4.3 kgs / 9.5 lbs
	RA4017-9-IP	5 kgs / 11 lbs

Regulatory	FCC & CE

Environmental	RoHS2 & REACH compliant

< 2.4 > Remote Fan Unit Model

Model : RA4015-3-R

1U Fan Tray with 3 fans

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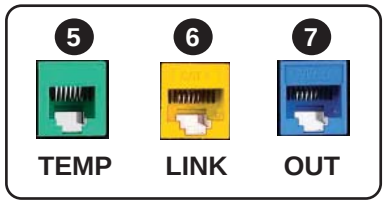
2 - Unit CFM Status LED
- Unit CFM Setting

4 - DIP switch for daisy chain level setting

1
- Individual fan status
- Individual fan On / Off buttons

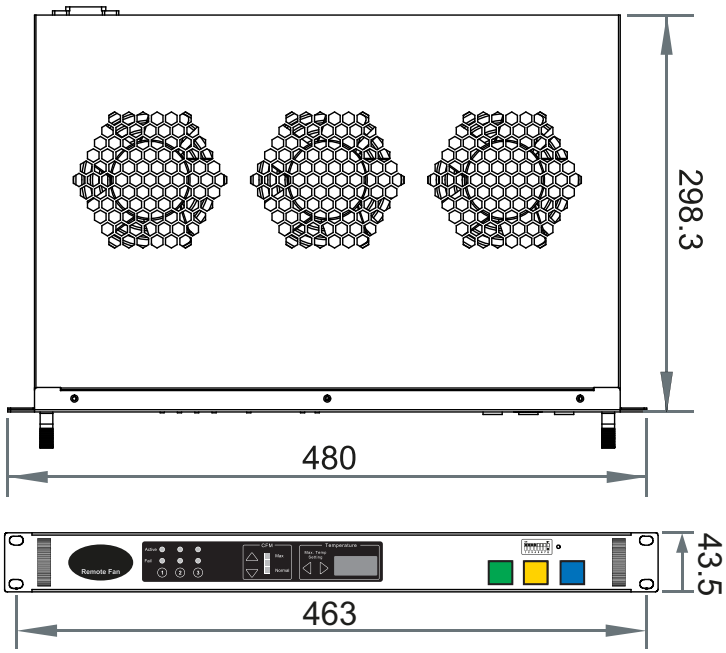
3
- Buttons for Alarm Temp. Setting
- Temp. LED display



⑤ - Temp. port bundled w/ a temp. sensor

⑥ - Daisy chain **LINK** port for connecting to the out port of the last level fan unit

⑦ - Daisy chain **OUT** port for connecting to the link port of the next level fan unit



< 2.4 > Remote Fan Unit Model

Model : RA4015-6-R

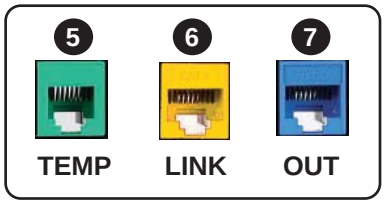
1U Fan Tray with 6 fans

2 - Unit CFM Status LED
- Unit CFM Setting

4 - DIP switch for daisy chain level setting

1 - Individual fan status
- Individual fan On / Off buttons

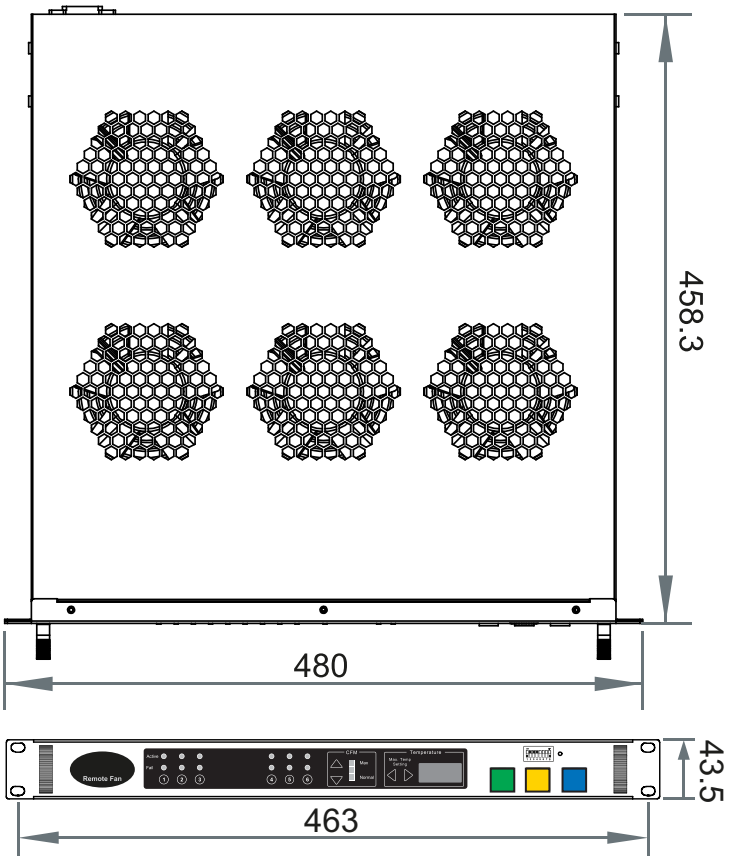
3 - Buttons for Alarm Temp. Setting
- Temp. LED display



⑤ - Temp. port bundled w/ a temp. sensor

⑥ - Daisy chain **LINK** port for connecting to the out port of the last level fan unit

⑦ - Daisy chain **OUT** port for connecting to the link port of the next level fan unit



< 2.4 > Remote Fan Unit Model

Model : RA4015-9-R

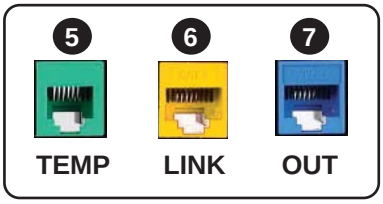
1U Fan Tray with 9 fans

② - Unit CFM Status LED
- Unit CFM Setting

④ - DIP switch for daisy chain level setting

① - Individual fan status
- Individual fan On / Off buttons

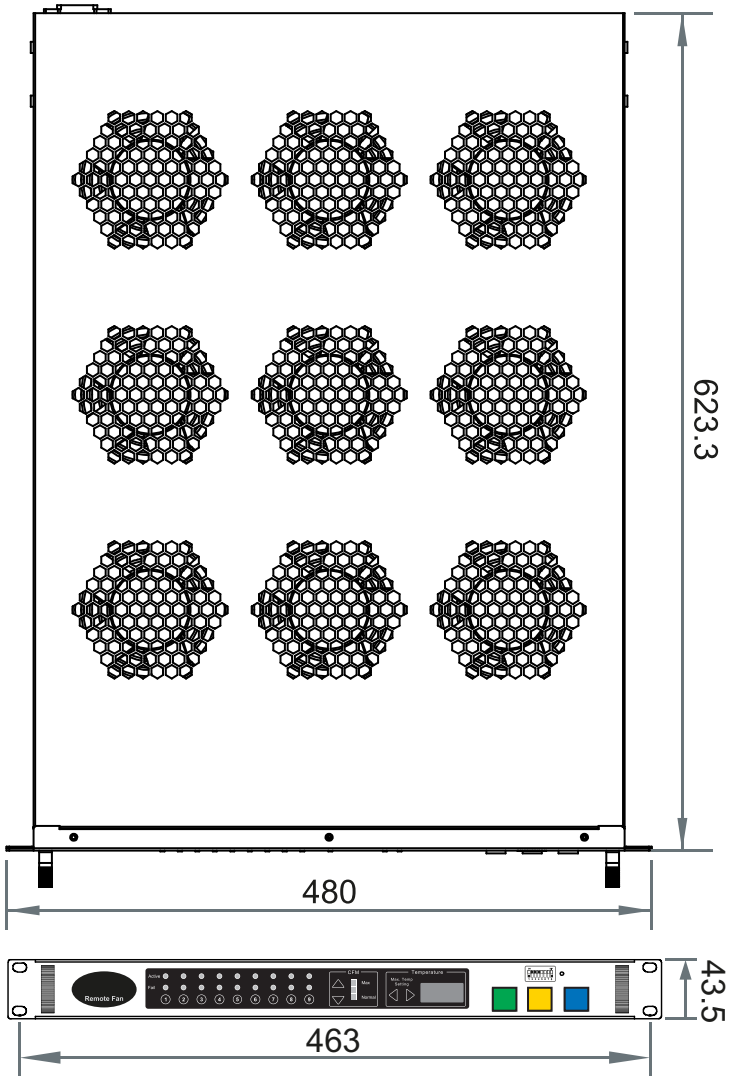
③ - Buttons for Alarm Temp. Setting
- Temp. LED display



⑤ - Temp. port bundled w/ a temp. sensor

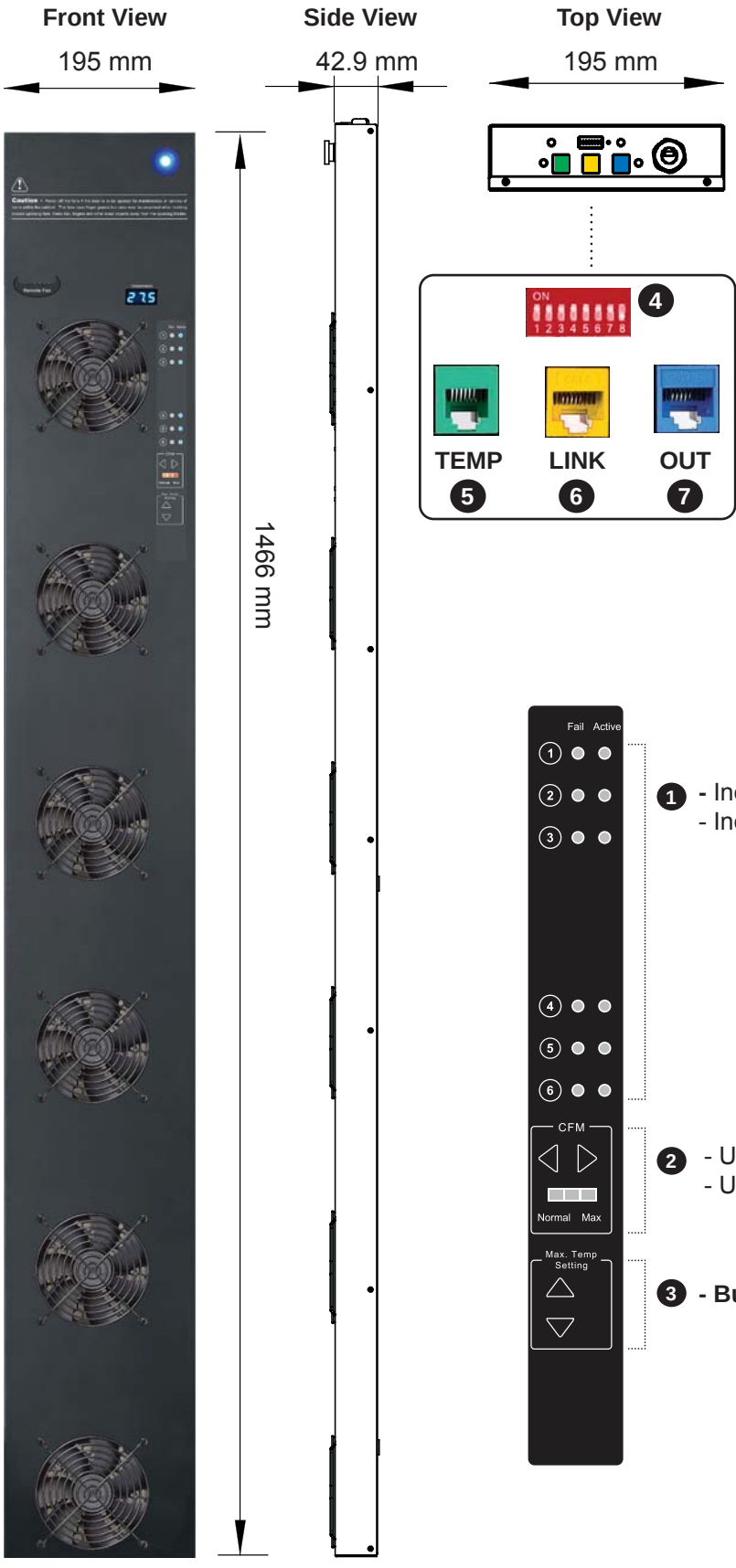
⑥ - Daisy chain **LINK** port for connecting to the out port of the last level fan unit

⑦ - Daisy chain **OUT** port for connecting to the link port of the next level fan unit



< 2.4 > Remote Fan Unit Model

Model : RA4017-6-R 33U Door Mount Fan Panel with 6 fans



④ - DIP switch for daisy chain level setting

⑤ - Temp. port bundled w/ a temp. sensor

⑥ - Daisy chain **LINK** port for connecting to the out port of the last level fan unit

⑦ - Daisy chain **OUT** port for connecting to the link port of the next level fan unit

❶ - Individual fan status
- Individual fan On / Off buttons

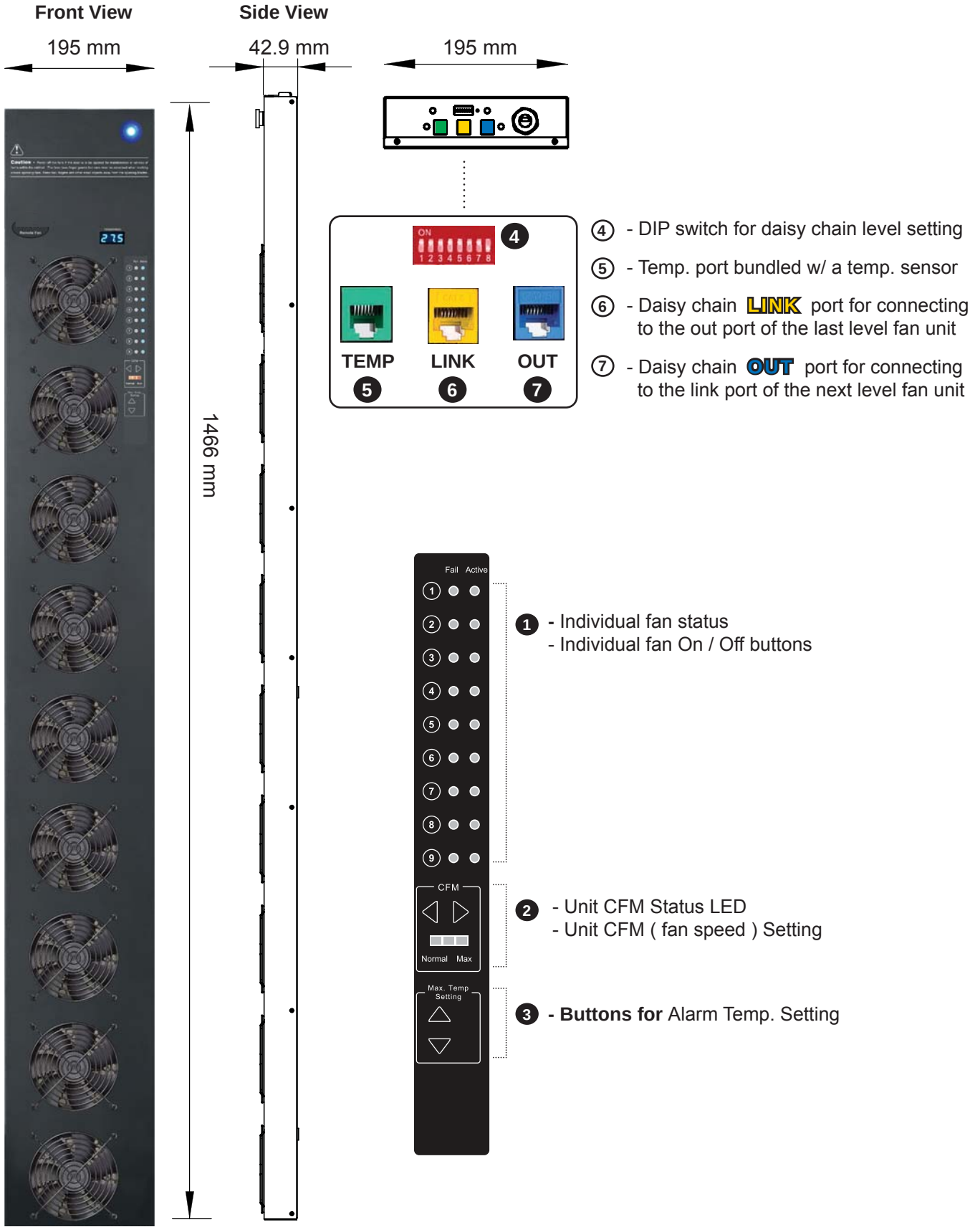
❷ - Unit CFM Status LED
- Unit CFM (fan speed) Setting

❸ - **Buttons for** Alarm Temp. Setting

FC CE RoHS REACH

< 2.4 > Remote Fan Unit Model

Model : RA4017-9-R 33U Door Mount Fan Panel with 9 fans


Front View
Side View
195 mm
42.9 mm
195 mm
1466 mm
ON
1 2 3 4 5 6 7 8
4
TEMP
LINK
OUT
5
6
7
④ - DIP switch for daisy chain level setting
⑤ - Temp. port bundled w/ a temp. sensor
⑥ - Daisy chain LINK port for connecting to the out port of the last level fan unit
⑦ - Daisy chain OUT port for connecting to the link port of the next level fan unit
Fail Active
1 - Individual fan status
- Individual fan On / Off buttons
CFM
Normal Max
2 - Unit CFM Status LED
- Unit CFM (fan speed) Setting
Max. Temp Setting
3 - Buttons for Alarm Temp. Setting

FC CE RoHS REACH

< 2.4 > Remote Fan Unit Specification Table

Remote Fan	Model	**RA4015_R**	**RA4017_R**
	No. of Fan	3 / 6 / 9	6 / 9
	Mounting	1U	Door mount
	CFM Level	Normal / High / Max.	
	Individual Fan ON / OFF	Yes	
	Individual Fan CFM	108 CFM	
	Unit CFM (Approximately)	324 / 648 / 972 CFM	648 / 972 CFM
	IP Remote Access	Not available, must be via Master IP fan on the 1st level	
	Daisy Chain Level	2nd to 16th level	

Temperature Sensor	Temperature Port	1 x temperature sensor port (sensor bundled)	
	Measurement Range	0 to 99.9°C	
	Measurement Accuracy	+/- 1.5%	
	Temperature Alarm	Yes	

Power	Input	100V or 240V AC at 50 or 60Hz via IEC type cord	
	Consumption	20W / 40W / 60W	40W / 60W

Environmental Conditions	Operating	0 to 50°C
	Storage	-5 to 60°C
	Relative Humidity	90%, non-condensing
	Shock	50G peak acceleration (11ms, half-sine wave)
	Vibration	58~100Hz / 0.98G (11ms / cycle)

Dimensions	**Model**	Product Dimension
	RA4015-3-R	480 x 298.3 x 43.5 mm 18.9 x 11.7 x 1.71 inch
	RA4015-6-R	480 x 458.3 x 43.5 mm 18.9 x 18 x 1.71 inch
	RA4015-9-R	480 x 623.3 x 43.5 mm 18.9 x 24.5 x 1.71 inch
	RA4017-6-R	195 x 42.9 x 1466 mm 7.7 x 1.7 x 57.7 inch
	RA4017-9-R	195 x 42.9 x 1466 mm 7.7 x 1.7 x 57.7 inch

Weight	**Model**	Net Weight
	RA4015-3-R	4 kgs / 8.8 lbs
	RA4015-6-R	6.8 kgs / 15 lbs
	RA4015-9-R	9 kgs / 19.8 lbs
	RA4017-6-R	4.3 kgs / 9.5 lbs
	RA4017-9-R	5 kgs / 11 lbs

Regulatory	FCC & CE

Environmental	RoHS2 & REACH compliant

< 2.5 > Daisy Chain Connection

Steps :

- Only **Master IP** fan unit built-in IP remote access module.
- **Master IP** fan unit **MUST** be set on the 1st daisy chain level according to the table below.
- For the 2nd - 16th levels (remote fan unit models), please make the level setting according to the table below.
- For the cabling connection, please refer to the next page.

Daisy chain level setting

Using the dip switch no. 1, 2, 3, 4, 5, 6 & 8 to setup each FAN unit level as below :

Cascaded FAN units	Dip switch no.						
	1	2	3	4	5	6	8
1st level **Master IP** Fan Unit Model	On	On	On	On	On	On	Off
2nd level Remote Fan Unit Model	Off	On	On	On	On	On	Off
3rd level Remote Fan Unit Model	On	Off	On	On	On	On	Off
4th level Remote Fan Unit Model	Off	Off	On	On	On	On	Off
5th level Remote Fan Unit Model	On	On	Off	On	On	On	Off
6th level Remote Fan Unit Model	Off	On	Off	On	On	On	Off
7th level Remote Fan Unit Model	On	Off	Off	On	On	On	Off
8th level Remote Fan Unit Model	Off	Off	Off	On	On	On	Off
9th level Remote Fan Unit Model	On	On	On	Off	On	On	Off
10th level Remote Fan Unit Model	Off	On	On	Off	On	On	Off
11th level Remote Fan Unit Model	On	Off	On	Off	On	On	Off
12th level Remote Fan Unit Model	Off	Off	On	Off	On	On	Off
13th level Remote Fan Unit Model	On	On	Off	Off	On	On	Off
14th level Remote Fan Unit Model	Off	On	Off	Off	On	On	Off
15th level Remote Fan Unit Model	On	Off	Off	Off	On	On	Off
16th level Remote Fan Unit Model	Off	Off	Off	Off	On	On	Off

**** No. 7 dip switch only for audio alarm setting**

< 2.5 > Daisy Chain Connection

Remarks :

- Each Master IP group supports 16 daisy chain levels.
- The 1st level fan unit must be one of the **Master IP** fan unit models.
- 1 x Master IP fan unit allows access to 16 levels.
- For IP fan unit access, simply connect 1 x Master IP fan unit.
- The 2nd - 16th level fan unit must be one of the Remote fan unit models.

2nd level
Remote fan unit model

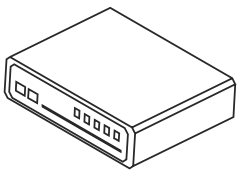
1st level
Master IP fan unit model

3rd level
Remote fan unit model

IP OUT LINK OUT LINK OUT

Cat5 / 6 cable
max. 20 meters

Cat5 / 6 cable
max. 20 meters



To Network Device
for IP Access via WAN

To LINK port of next
level Remote Fan Unit
(max level: 16)

< 2.6 > Audio Temperature Alarm Setting

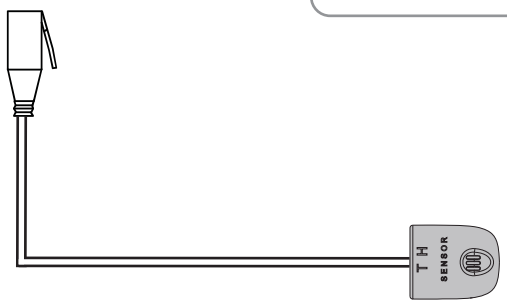
Using the dip switch no. 7 to setup each FAN unit audio alarm as below :

	Dip switch 7
Enable	On
Disable	Off

If enable the audio alarm, the buzzer will sound when the outside temperature is over the preset alarm temperature.

< 2.7 > Temperature Sensor

TEMP



Bundled Temp. Sensor

Part no. : **EMS-101-2**

- Plug & Play
- External sensor with 2M cord
- Low profile design with magnetic base for easy affixing to the rack cabinet

Optional 4M cord for Temp. Sensor

< 2.7 > Temperature Sensor

		Temp. Sensor
Part no.		**EMS-101-2**
Temperature Sensitivity	Range	0 to 80°C (32 to 176°F)
	Accuracy	±1°C (±2°F)
	Resolution	0.1°C (0.2°F)
	Response Time	5 to 30 sec
Power Requirement	Voltage	12VDC, powered by sensor port
	Current Consumption	20mA
	Power consumption	0.24 Watt
	Power on indicator	Green
Housing	Chassis & Cover	Plastic
	Color	Dark gray
	Installation	Magnetic base for unrestricted installation
Connection	Cable Length	T sensor w/ 2m cable (standard) T sensor w/ 4m cable (option)
	Cable Specification	4-wired 3.5mm to RJ11
	Cable Color	Beige
Environmental	Operating	0 to 80°C Degree
	Storage	-5 to 80°C Degree
	Humidity	0~100%, non-condensing
Dimensions	Product	30L x 25W x 18H mm
Weight	Net	66g
Supply includes	1	Temperature Sensor
	2	4-wired 3.5mm to RJ11 cable (2m, black color)
Compatibility	InfraPower	W / WS / Wi / WSi series PDU
	InfraSolution	X-2000 series
	InfraGuard	EC-300M & EC-300
Safety Regulatory	FCC & CE certified	
Environmental	RoHS2 & REACH compliant	

< 2.8 > Alarm Temperature Setting

How to set alarm temperature :

- Hold ▷ for 5 seconds.
- Press ◁ ▷ button to set the alaram temperature.

The alarm temp. can be set either by these buttons or software.

How to set temp. unit (Celsius or Fahrenheit) :

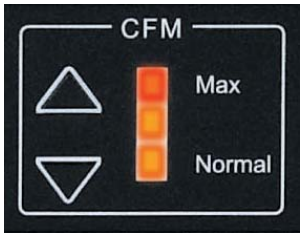
- Hold ◁ for 5 seconds.
- Press ◁ ▷ button to set the temp. unit.

The above steps are only for local LED temp. display.
Users need to set the temp. unit (°C or °F) in the software GUI separately.

< 2.9 > Fan Unit CFM Setting

To save the energy, the fan unit provides a CFM setting by three levels :
- Normal (Approx. 60% of the unit CFM)
- High (Approx. 75% of the unit CFM)
- Max. (Approx. 100% of the unit CFM)

Please set the CFM according to the environmental conditions.



How to set unit CFM :

- Press △ ▽ button to change the fan unit CFM setting.

However, if the outside temperature is over alarm temperature, the unit CFM will be automatically changed to Max. level. Under this condition, all fan kits will be turned on.

< Part III > Software

< 3.1 > Key Features

We provide a FREE Air Flow management software to remote & monitor up to 30 Master IP Groups (max. 16 fan unit levels in each Master IP Group), total 480 fan units.

5 concurrent user access are bundled for achieving the demand of multi-user / multi-tasking in nowadays' time sharing data center operation.

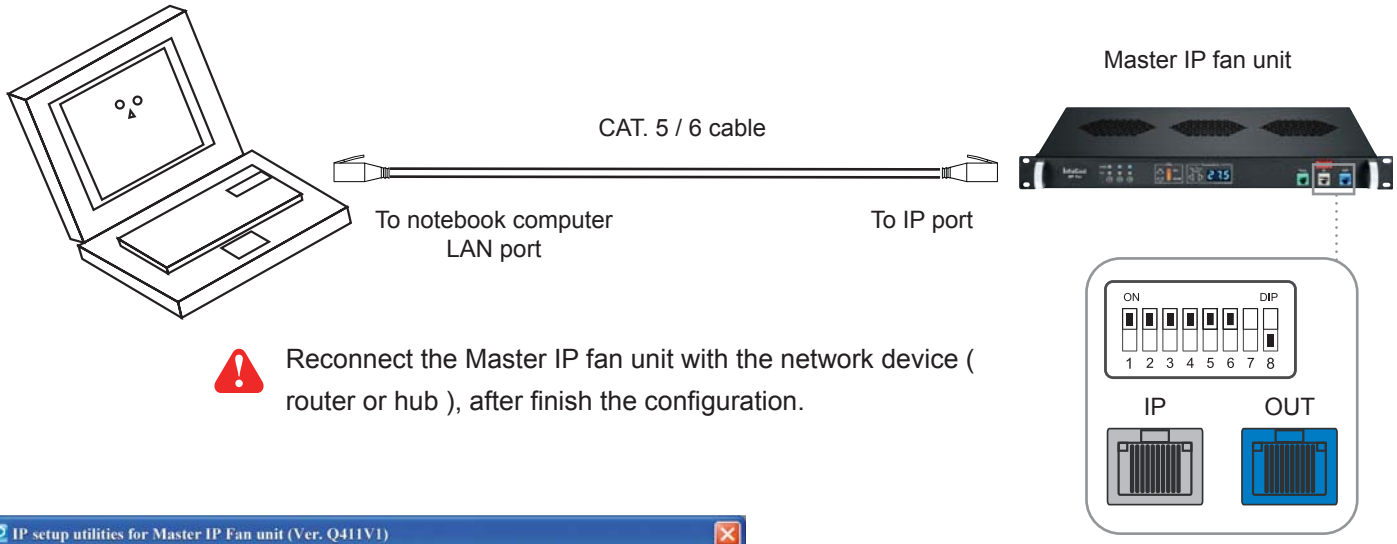
Software Management

	Features	
Capacity	Master IP Group (Just 1 IP for remote Fan unit levels)	30
	Remote Fan unit number	480
	Concurrent user	5
Features	Unit CFM (fan speed) Setting	✔
	Auto CFM Control Setting	✔
	Individual Fan ON / OFF	✔
	Fan Unit ON / OFF	✔
	Temp. Monitoring	✔
	Alarm Temp. Setting	✔
	Reporting	✔
	Graphical User Interface	✔
	Remote Access via Web Browser	✔
Software Platform	Windows	✔
Fan Unit Models Support	Master IP Fan Unit (IP dongle built-in)	✔
	Remote Fan unit	

< 3.2 > Master IP Configuration

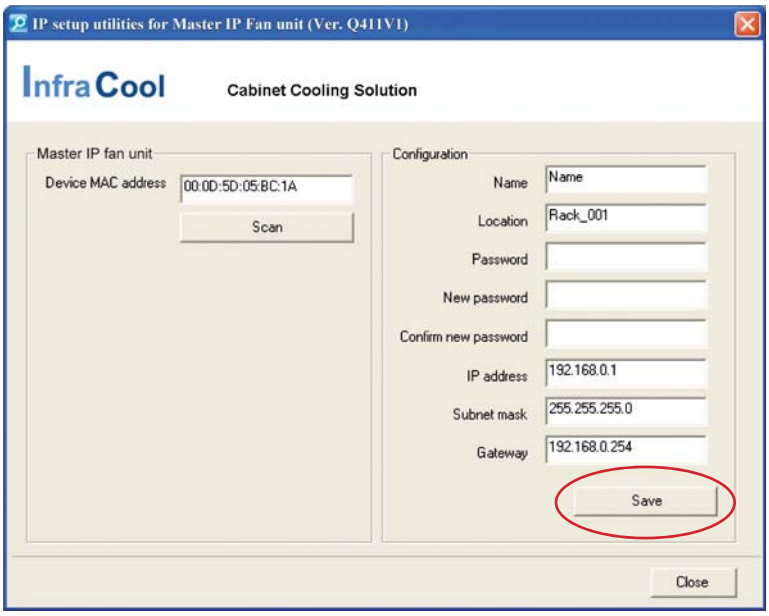
Please take the following steps to configure the Master IP fan unit :

1. Prepare a notebook computer to download the IP setup utilities from the link :
   http://www.rackmountmart.com/downloads.html
2. Double click the IPSetupUtilities.msi and follow the instruction to complete the installation.
3. Go to each Master IP fan unit with the notebook computer & a piece of CAT. 5 / 6 cable to set up the configuration by IP setup utilities as below. Please take the procedure for all Master IP fan unit **ONE BY ONE**.



Reconnect the Master IP fan unit with the network device (router or hub), after finish the configuration.

Ensure the FAN unit in power ON status



Write down the new IP address & password for < Setup > purpose, refer to P.33

4. Click **Scan** to search the connected Master IP fan unit.
5. Enter the device name in the name field (min. 4 char. / max. 16 char.). **The default is Name.**
6. Enter the location in the location field (min. 4 char. / max. 16 char.). **The default is Rack_001.**
7. Enter the password in the password field for authentication (min. 8 char. / max. 16 char.). **The default is 00000000.**
8. Enter the new password in the new password field (min. 8 char. / max. 16 char.).
9. Re-enter the new password in the Confirm new password field.
10. Change the desired IP address / Subnet mask / Gateway, then click **Save** to confirm the setting to Master IP fan unit.
11. The default IP address is as below:

    IP address : 192.168.0.1
    Subnet mask : 255.255.255.0
    Gateway : 192.168.0.254

< 3.3 > Hardware Requirement of the Management PC

Please prepare a management PC with the hardware requirements as below for software

Recommended hardware requirements :

- Processor: Dual Core 2GHz or above
- Memory: 2GB RAM
- Available Disk Space: 500GB
- Drive: DVD ROM drive
- Display: 1440 x 900 or higher resolution monitor

- The default service port of web server is 80.

- A dedicated PC to run software is recommended.

- Make sure the management PC is POWER ON & ICM-02 is under operation. Otherwise, daily data backup will NOT be proceeded.

< 3.4 > Supported OS Platform & Language

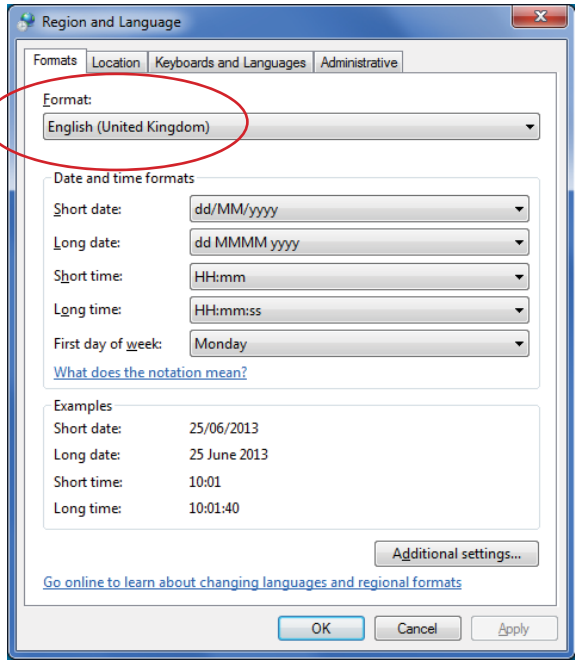
Our Software supports the OS platforms & languages as below:

- MS Windows XP Professional with SP3 (32bit only)
- MS Windows 7 Professional with SP1
- MS Windows 7 Ultimate with SP1
- MS Windows Server 2003 R2 Standard Edition with SP2
- MS Windows Server 2008 Standard Edition SP2
- MS Windows Server 2008 R2 Standard Edition SP1

Ensure the user logins in the management PC as a member of "Administrators" Group before Installation and execution.

User can select the following languages under Control Panel > Region and Language in English Edition OS:

1) Arabic (Saudi Arabia)
2) Chinese (Traditional, Hong Kong S.A.R.)
3) Dutch (Netherlands)
4) English (Australia)
5) English (United Kingdom)
6) English (United States)
7) French (France)
8) German (Germany)
9) German (Switzerland)
10) Italian (Italy)
11) Japanese (Japan)
12) Korean (Korea)
13) Norwegian (Norway)
14) Portuguese (Portugal)
15) Russian (Russia)
16) Spanish (Spain)
17) Turkish (Turkey)



< 3.5 > Software Download

Our Cool Manager, ICM-02, is a **AIR FLOW** management software to monitor the temperature change by providing a centralized and remote management platform, and total reporting with detailed logs & event occurrences.

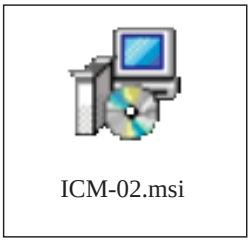
Our Cool Manager ICM-02 can support max. 5 concurrent login users and manage multi- Master IP group max. 30, hence the concurrent login users can access & remote FAN units max. 480 (30 Master IP groups x 16 level fan units).

Software download

Please download the software to the management PC

from the link http://www.rackmountmart.com/downloads.html

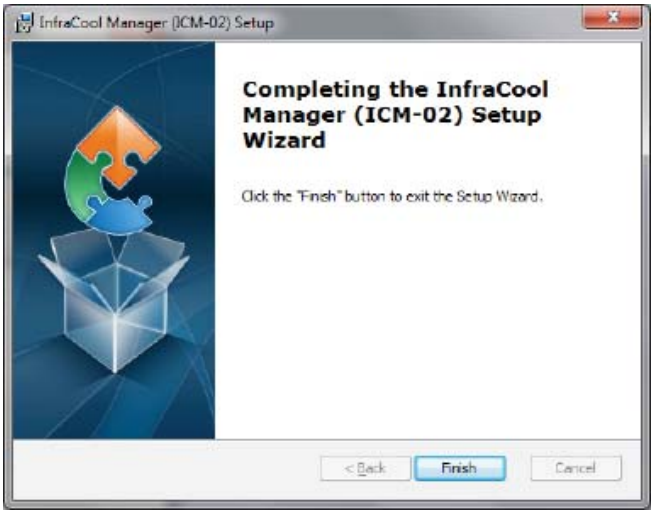
Double click the ICM-02.msi and follow the instruction to complete the installation.



InfraCool Manager (ICM-02) Setup
Welcome to the InfraCool Manager (ICM-02) Setup Wizard
The Setup Wizard will install InfraCool Manager (ICM-02) on your computer. Click "Next" to continue or "Cancel" to exit the Setup Wizard.
< Back
Next >
Cancel

click " **Next** "

click " **Install** "


InfraCool Manager (ICM-02) Setup
Completing the InfraCool Manager (ICM-02) Setup Wizard
Click the "Finish" button to exit the Setup Wizard.
< Back
Finish
Cancel

click " **Finish** "

Complete

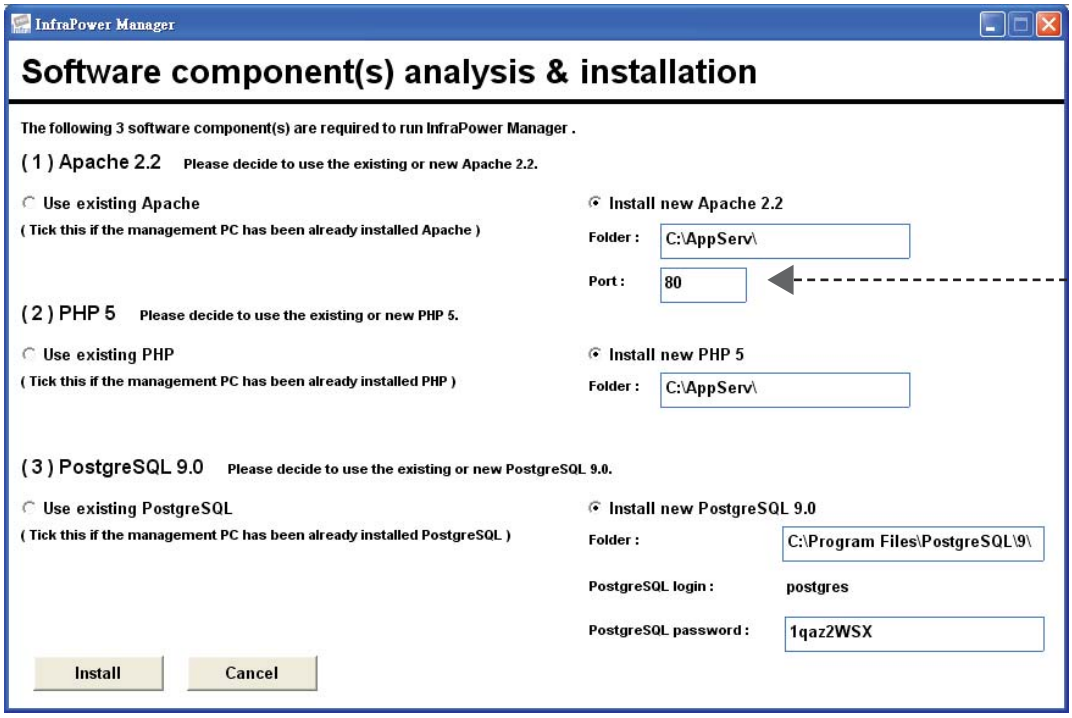
< 3.6 > First Time Start-up Setting

Step 1. Double click the InfraCool Manager - ICM-02
and follow the instruction to complete start-up setting.

ICM-02
InfraCool Manager

Step 2. Click " **Next** " in " **InfraCool Manager start-up setting** " box

Step 3. Input the fields of the following window & Click " **Install** "


InfraPower Manager
Software component(s) analysis & installation
The following 3 software component(s) are required to run InfraPower Manager .
(1) Apache 2.2 Please decide to use the existing or new Apache 2.2.
Use existing Apache
(Tick this if the management PC has been already installed Apache)
Install new Apache 2.2
Folder : C:\AppServ\
Port : 80
(2) PHP 5 Please decide to use the existing or new PHP 5.
Use existing PHP
(Tick this if the management PC has been already installed PHP)
Install new PHP 5
Folder : C:\AppServ\
(3) PostgreSQL 9.0 Please decide to use the existing or new PostgreSQL 9.0.
Use existing PostgreSQL
(Tick this if the management PC has been already installed PostgreSQL)
Install new PostgreSQL 9.0
Folder : C:\Program Files\PostgreSQL\9\
PostgreSQL login : postgres
PostgreSQL password : 1qaz2WSX
Install
Cancel

If the port of web server is not 80, please input the appropriate no. here and follow the instruction in " Change port no. of web server" on next page to make the change effective.

PostgreSQL password can be changed by user.
The password **MUST** contain at least three of the following four character groups:

- English uppercase characters (A through Z)
- English lowercase characters (a through z)
- Numerals (0 through 9)
- Non-alphabetic characters (such as !, $, #, %)

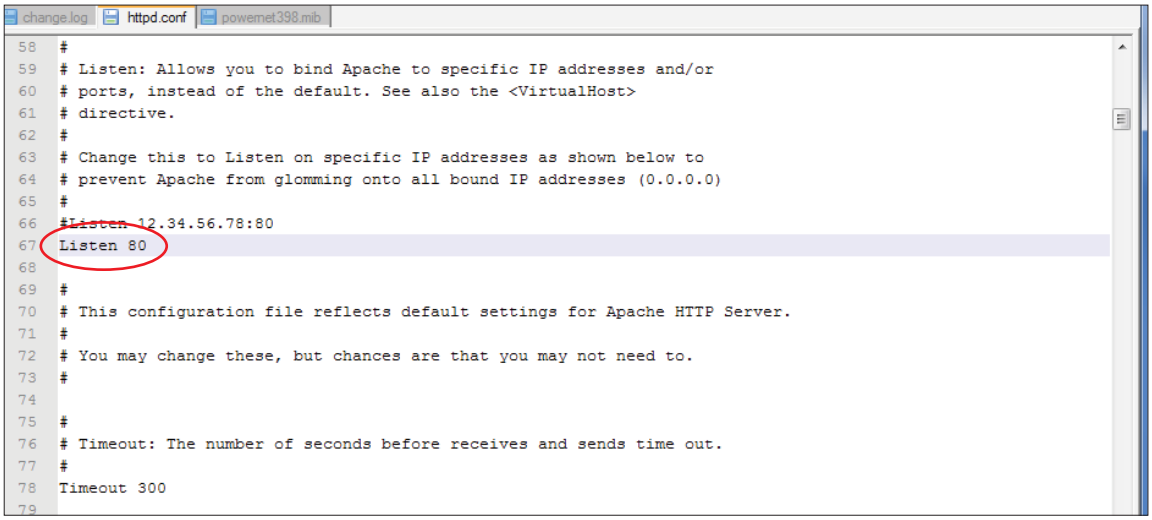
< 3.7 > Change Port no. of Web Server

Change port no. of web server.

If users want to use another port no. instead of 80, please take the following steps after InfraCool Manager ICM-02 " **First time start-up setting** " is completed.

Step 1. Go to the path of web server being installed. (Default: C:\AppServ\Apache2.2\conf\ )

Step 2. Open " **httpd.conf** " & change " **Listen 80** " to " **Listen xx** " where xx means the port users want to use save the change


change.log
httpd.conf
powernet398.mib
58 #
59 # Listen: Allows you to bind Apache to specific IP addresses and/or
60 # ports, instead of the default. See also the <VirtualHost>
61 # directive.
62 #
63 # Change this to Listen on specific IP addresses as shown below to
64 # prevent Apache from glomming onto all bound IP addresses (0.0.0.0)
65 #
66 #Listen 12.34.56.78:80
67 Listen 80
68
69 #
70 # This configuration file reflects default settings for Apache HTTP Server.
71 #
72 # You may change these, but chances are that you may not need to.
73 #
74
75 #
76 # Timeout: The number of seconds before receives and sends time out.
77 #
78 Timeout 300
79

Step 3. Restart Apache services.
Go to Control Panel > Administrative Tools > Services > Apache2.2 & Click " **Restart** "

Complete

Part IV. System Setup & Remote Access

< 4.1 > System setup

Users can follow below step 1 - 3 to access the management PC and InfraCool Manager ICM-02

Step 1. Open Internet Explorer (I.E.), version 8.0 or above

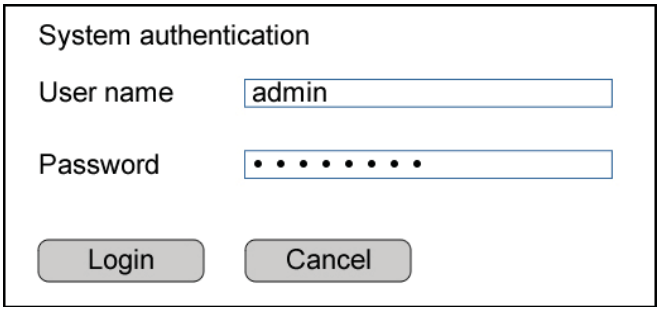
Step 2. Enter the URL of management PC into the address bar

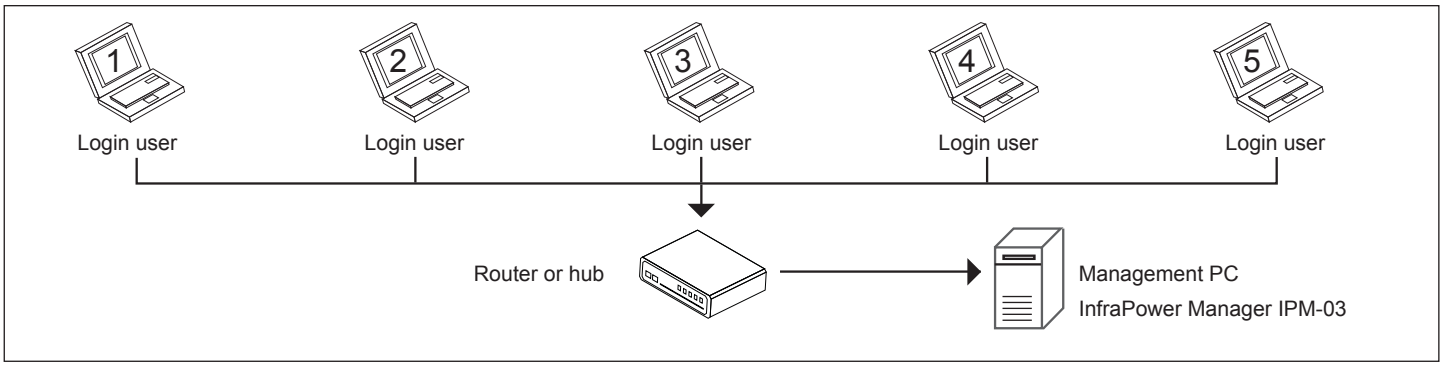
(If fail to access, please ask MIS to check if the port for web server is enable. Default port : 80)

e.g. http://192.168.0.1/ICM-02/

Step 3. Enter " **User name** " . Default is " **admin** "

Enter " **Password** " . Default is " **00000000** "





Then users should go to < **User** >, < **Setup** >, < **Alarm** >, < **General** > & < **Backup** > for initial system setup

Only Administrator is authorised to access < **User** >, < **Setup** >, < **Alarm** >, < **General** > & < **Backup** >

< 4.1 > System setup

In < **User** > page, administrator can create 4 more operators.

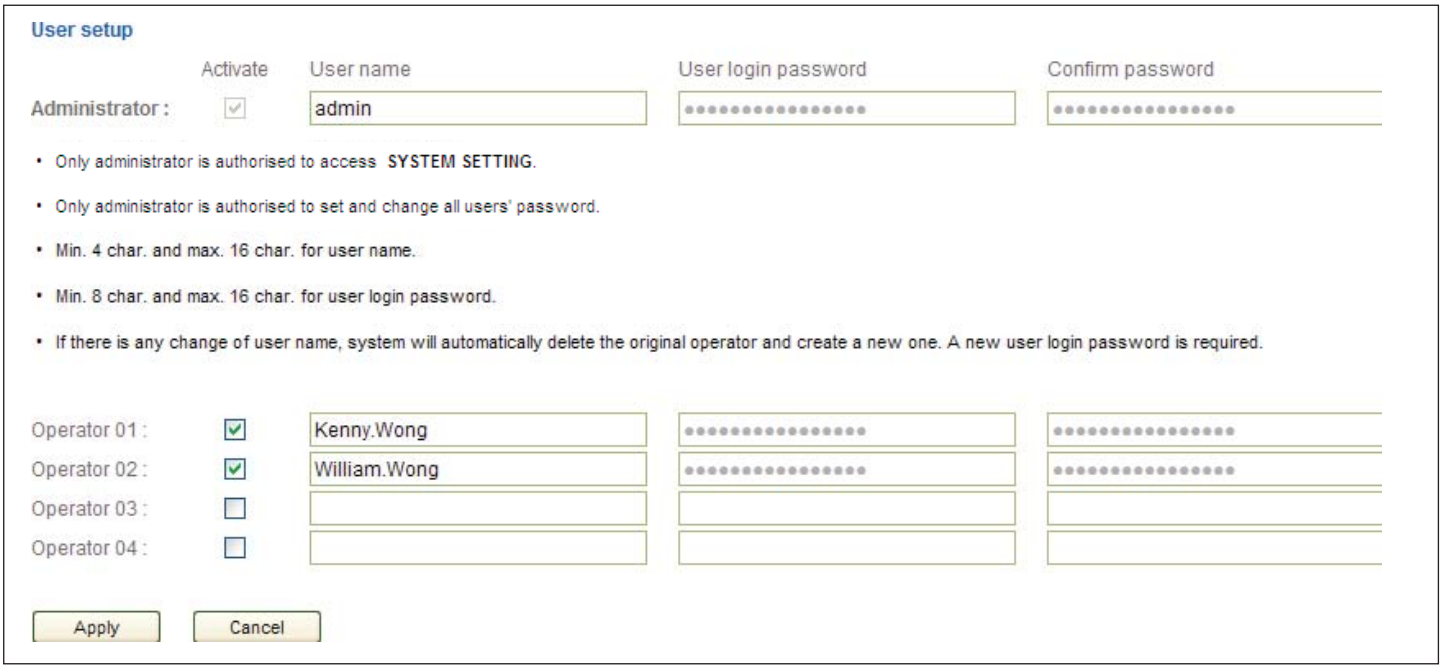
Step 1. Tick " **Operator 1:** "

Step 2. Input " **User name** " & " **User login password** "

Step 3. Input user login password in " **Confirm password** " again

Step 4. Repeat Step 1 to 3 for other operators if necessary

Step 5. Click " **Apply** " to finish the user setup


User setup
Activate
User name
User login password
Confirm password
Administrator :
admin
• Only administrator is authorised to access SYSTEM SETTING.
• Only administrator is authorised to set and change all users' password.
• Min. 4 char. and max. 16 char. for user name.
• Min. 8 char. and max. 16 char. for user login password.
• If there is any change of user name, system will automatically delete the original operator and create a new one. A new user login password is required.
Operator 01 :
Kenny.Wong
Operator 02 :
William.Wong
Operator 03 :
Operator 04 :
Apply
Cancel

< 4.1 > System setup

In **< Setup >** page, administrator can activate max. 30 Master IP groups & set the group command password

Step 1. " Activate " Master IP group 01

Step 2. Input **" IP address "** & **" password "** of the Master IP group 01

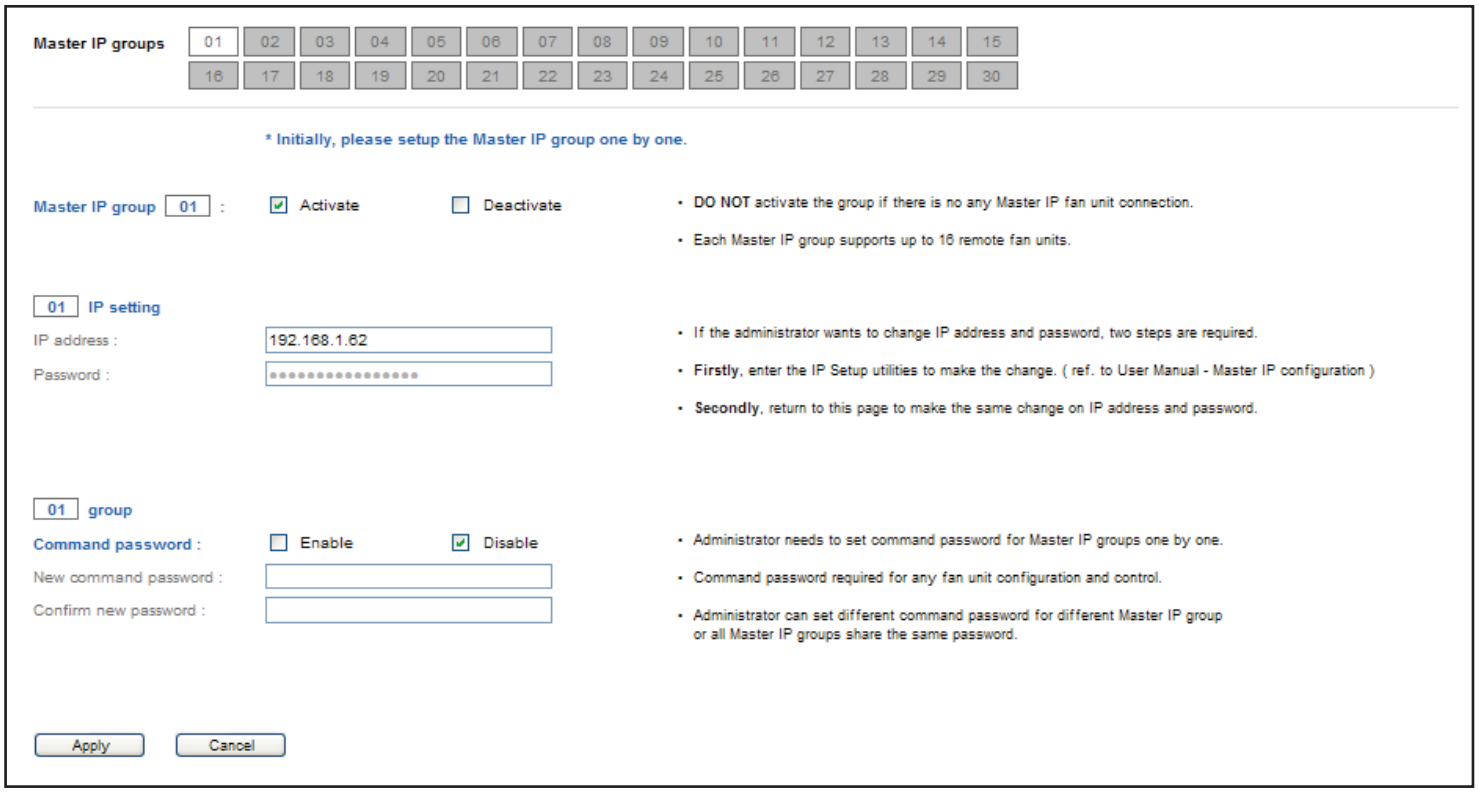
Step 3. " **Enable** " Command password

Step 4. Input " **New command password** ". Default is " **00000000** "

Step 5. Input new command password in " **Confirm new password** " again.

Step 6. Click " **Apply** " to finish the Master IP group setup

Step 7. Repeat step 1 to 6 for other Master IP groups if necessary


Master IP groups
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
* Initially, please setup the Master IP group one by one.
Master IP group 01 :
Activate
Deactivate
DO NOT activate the group if there is no any Master IP fan unit connection.
Each Master IP group supports up to 16 remote fan units.
01 IP setting
IP address :
192.168.1.62
Password :
If the administrator wants to change IP address and password, two steps are required.
Firstly, enter the IP Setup utilities to make the change. (ref. to User Manual - Master IP configuration)
Secondly, return to this page to make the same change on IP address and password.
01 group
Command password :
Enable
Disable
New command password :
Confirm new password :
Administrator needs to set command password for Master IP groups one by one.
Command password required for any fan unit configuration and control.
Administrator can set different command password for different Master IP group or all Master IP groups share the same password.
Apply
Cancel

< 4.1 > System setup

In < **Alarm** > , administrator can configure the alarm email server & max. 5 email recipients to receive alarm notifications from the software

Step 1. " **Enable** " alarm email

Step 2. Input " **SMTP server** " , " **SMTP port** "

Step 3. Input sender email account in " **User email** "

Step 4. Input sender name in " **User name** "

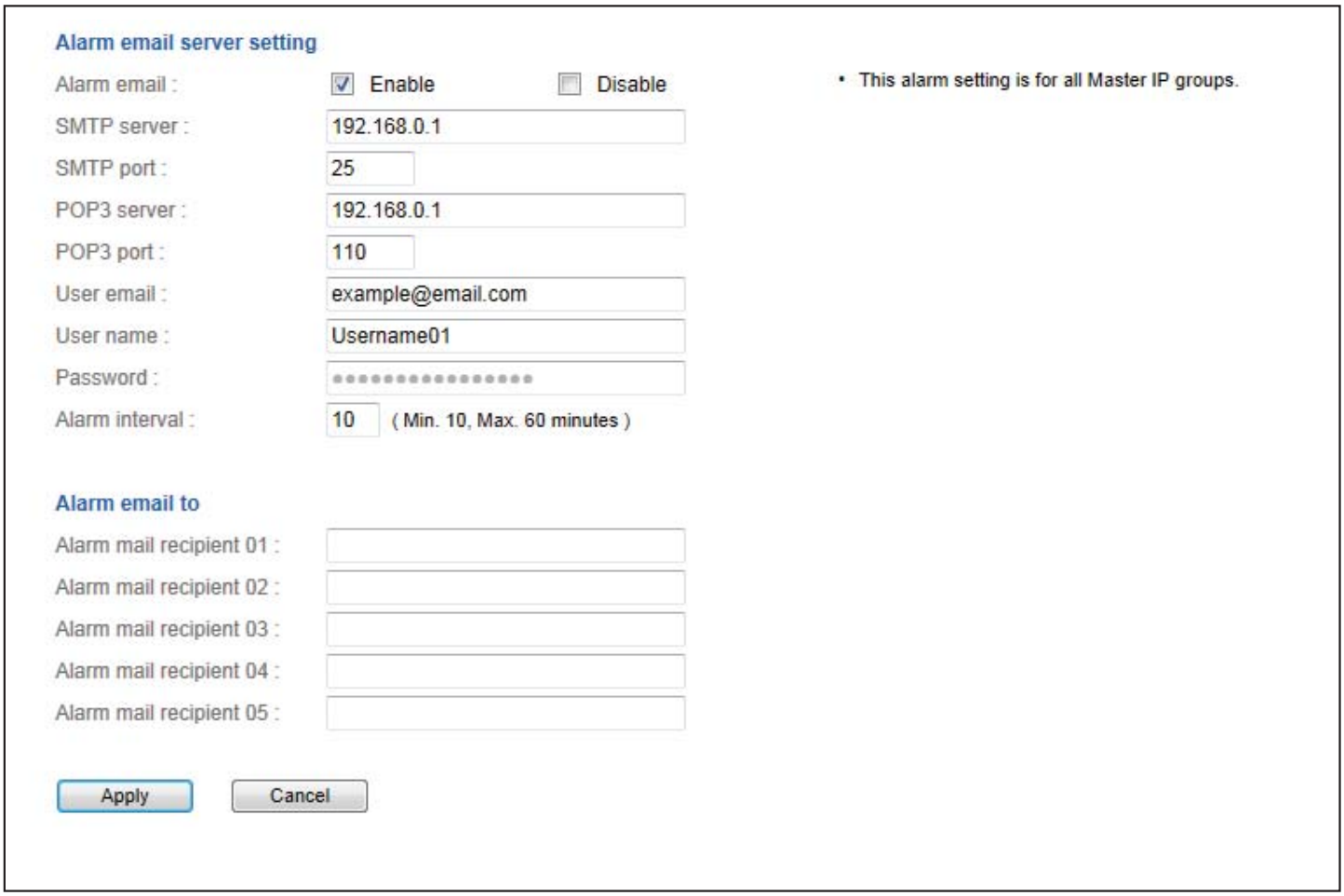
Step 5. Input sender email account password in " **Password** "

Step 6. Input the " **Alarm interval** "

Step 7. Input the alarm recipient email account in " **Email address 01** "

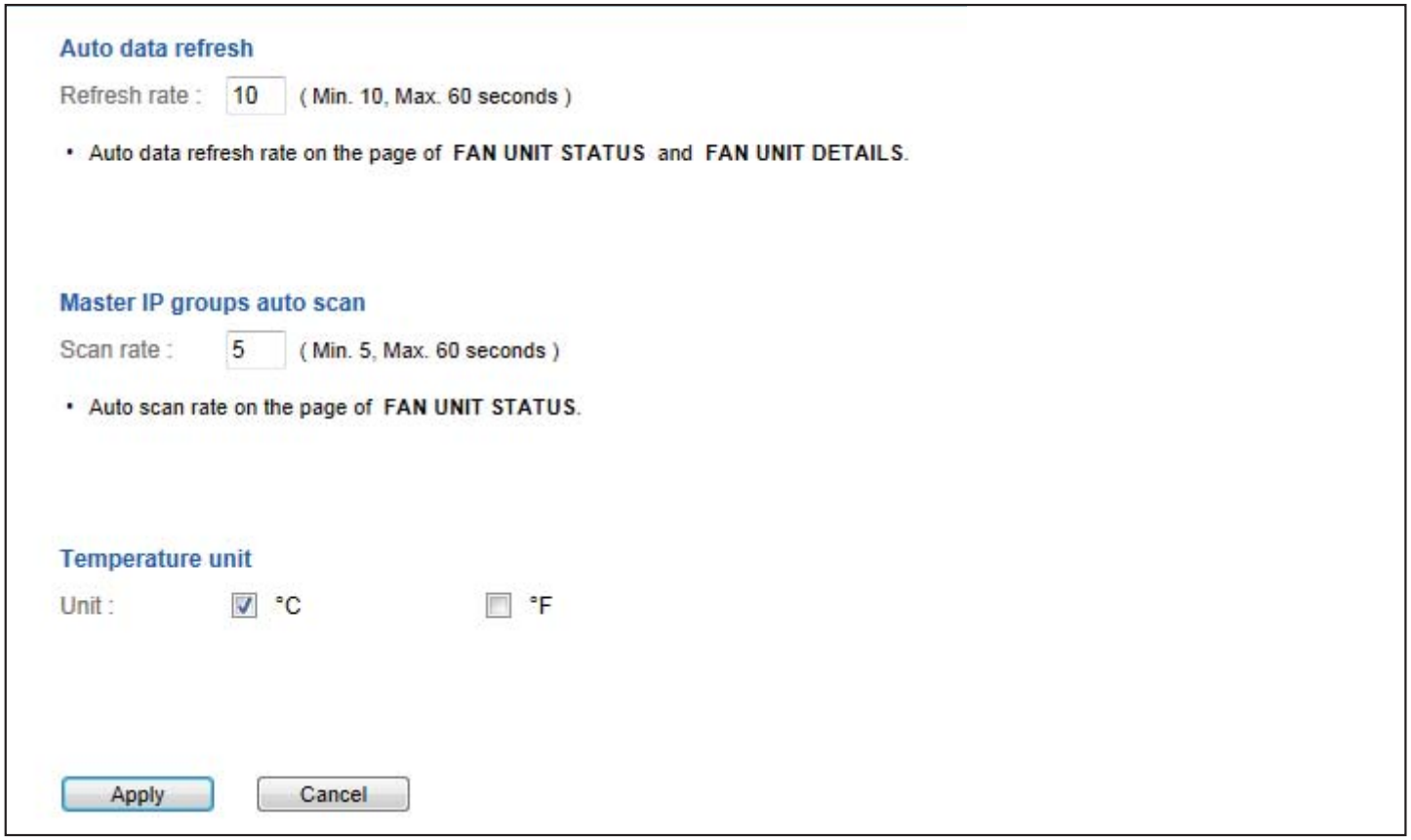
Step 8. Repeat step 7 from other alarm recipients if necessary

Step 9. Click " **Apply** " to finish the alarm email server settings

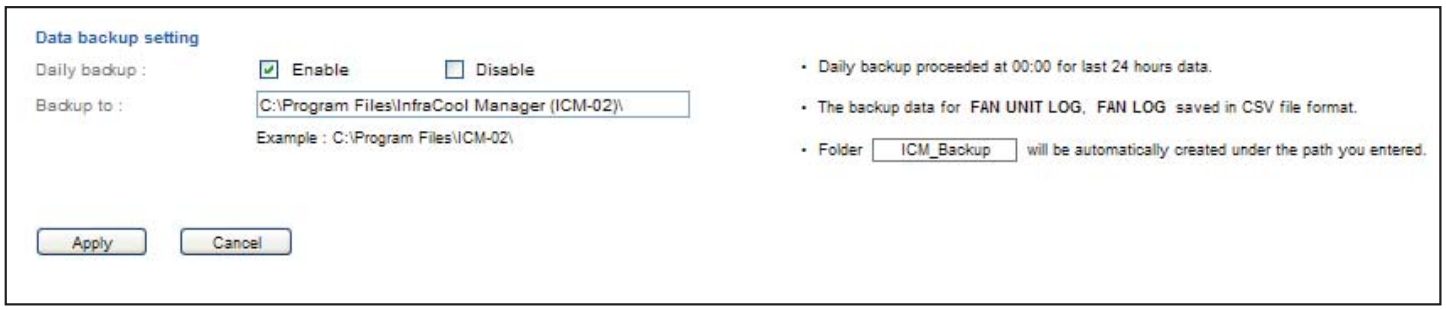

Alarm email server setting
Alarm email : Enable Disable
SMTP server : 192.168.0.1
SMTP port : 25
POP3 server : 192.168.0.1
POP3 port : 110
User email : example@email.com
User name : Username01
Password :
Alarm interval : 10 (Min. 10, Max. 60 minutes)
Alarm email to
Alarm mail recipient 01 :
Alarm mail recipient 02 :
Alarm mail recipient 03 :
Alarm mail recipient 04 :
Alarm mail recipient 05 :
Apply
Cancel
• This alarm setting is for all Master IP groups.

< 4.1 > System setup

In < **General** > , administrator can change the " **Refresh rate** " , " **Scan rate** " & " **Temperature unit** " across all Master IP groups


Auto data refresh
Refresh rate : 10 (Min. 10, Max. 60 seconds)
• Auto data refresh rate on the page of FAN UNIT STATUS and FAN UNIT DETAILS.
Master IP groups auto scan
Scan rate : 5 (Min. 5, Max. 60 seconds)
• Auto scan rate on the page of FAN UNIT STATUS.
Temperature unit
Unit : °C °F
Apply
Cancel

In < **Backup** > , administrator can " **Enable** " or " **Disable** " the daily data backup. When " **Enable** ", the backup path can be changed


Data backup setting
Daily backup : Enable Disable
Backup to : C:\Program Files\InfraCool Manager (ICM-02)\
Example : C:\Program Files\ICM-02\
• Daily backup proceeded at 00:00 for last 24 hours data.
• The backup data for FAN UNIT LOG, FAN LOG saved in CSV file format.
• Folder ICM_Backup will be automatically created under the path you entered.
Apply
Cancel

< 4.1 > System setup

< Sys log > provides last 2000 events in < User >, < Setup >, < Alarm >, < General > & < Backup > .

First / Previous 1 2 3 4 5 6 7 8 9 10 Next / Last

Last 2000 log records.

Date	Time	Event	Description
2012/09/24	11:34:46	Alarm	[admin] : Change alarm email server setting - User email
2012/09/24	11:34:46	Alarm	[admin] : Delete alarm mail recipient - Alarm mail recipient 01 -
2012/09/24	11:34:46	Alarm	[admin] : Change alarm email server setting - User name
2012/09/24	11:34:46	Alarm	[admin] : Change alarm email server setting - SMTP server
2012/09/24	11:34:46	Alarm	[admin] : Enable alarm
2012/09/24	09:56:54	User	[admin] : Delete operator - Operator 01 - kenny
2012/09/23	18:09:22	Setup	[admin] : Activate Master IP group 01
2012/09/23	18:05:00	Setup	[admin] : Deactivate Master IP group 01
2012/09/23	17:28:09	Setup	[admin] : Deactivate Master IP group 01
2012/09/23	16:29:52	Setup	[admin] : Activate Master IP group 01
2012/09/23	15:59:11	Alarm	[admin] : Disable alarm
2012/09/23	15:07:57	Setup	[admin] : Deactivate Master IP group 01
2012/09/23	14:13:27	User	[admin] : Add operator - Operator 01 - kenny
2012/09/23	14:13:17	User	[admin] : Delete operator - Operator 01 - kenny
2012/09/23	14:13:17	User	[admin] : Delete operator - Operator 02 - WillWONG
2012/09/23	14:06:36	Setup	[admin] : Activate Master IP group 01
2012/09/23	14:06:16	Setup	[admin] : Activate Master IP group 01
2012/09/23	12:28:04	Setup	[admin] : Deactivate Master IP group 01
2012/09/23	12:27:56	Setup	[admin] : Deactivate Master IP group 01
2012/09/21	18:01:05	Setup	[admin] : Activate Master IP group 01
2012/09/21	17:50:21	Setup	[admin] : Deactivate Master IP group 01
2012/09/21	12:25:13	Setup	[admin] : Activate Master IP group 01
2012/09/21	12:24:56	Setup	[admin] : Deactivate Master IP group 01
2012/09/21	12:24:26	Setup	[admin] : Activate Master IP group 01
2012/09/21	12:23:58	Setup	[admin] : Deactivate Master IP group 01

System setup events

- **User**
  - (1) Add / Delete administrator or operator
  - (2) Change user login password
- **Setup**
  - (1) Activate / Deactivate Master IP group [No.]
  - (2) Change Master IP group [No.] IP address or password
  - (3) Enable / Disable Master IP group [No.] command password
  - (4) Change Master IP group [No.] command password
- **Alarm**
  - (1) Enable / Disable alarm
  - (2) Change alarm email server setting
  - (3) Add / Delete alarm mail recipient
- **General**
  - (1) Change refresh mode time rate
  - (2) Change scan mode time rate
  - (3) Change temperature unit
- **Backup**
  - (1) Enable / Disable daily backup
  - (2) Change backup path

< 4.2 > Remote Access

After administrator completes < System Setup >, up to 4 additional users can access the management PC remotely. User can follow the steps below to access management PC & InfraCool Manager ICM-02

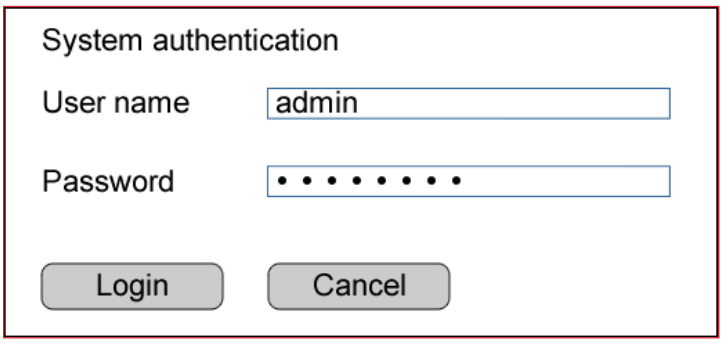
Step 1. Add the port of web server in the firewall settings of the management PC.
- Open " **Control Panel** "
- Select " **Windows Firewall** "
- Select " **Advanced settings** "
- Right Click " **Inbound Rules** " & select " **New Rule…** "
- Select " **Port** " & Click " **Next>** "
- Select " **TCP** " then " **All local ports** " & Click " **Next>** "
- Select " **Allow the connection** " & Click " **Next>** "
- Tick all three options & Click " **Next>** "
- Input the " **Name** " & " **Description** " of the port & Click " **Finish** "

Step 2. Open the web browser of remote client PC

Step 3. Input the URL of InfraCool Manager ICM-02 in the address bar
e.g. http://192.168.0.1/ICM-02/

If the port no. of web server is not 80, please enter the appropriate port no. follow the IP address e.g. http://192.168.0.1:81/ICM-02/

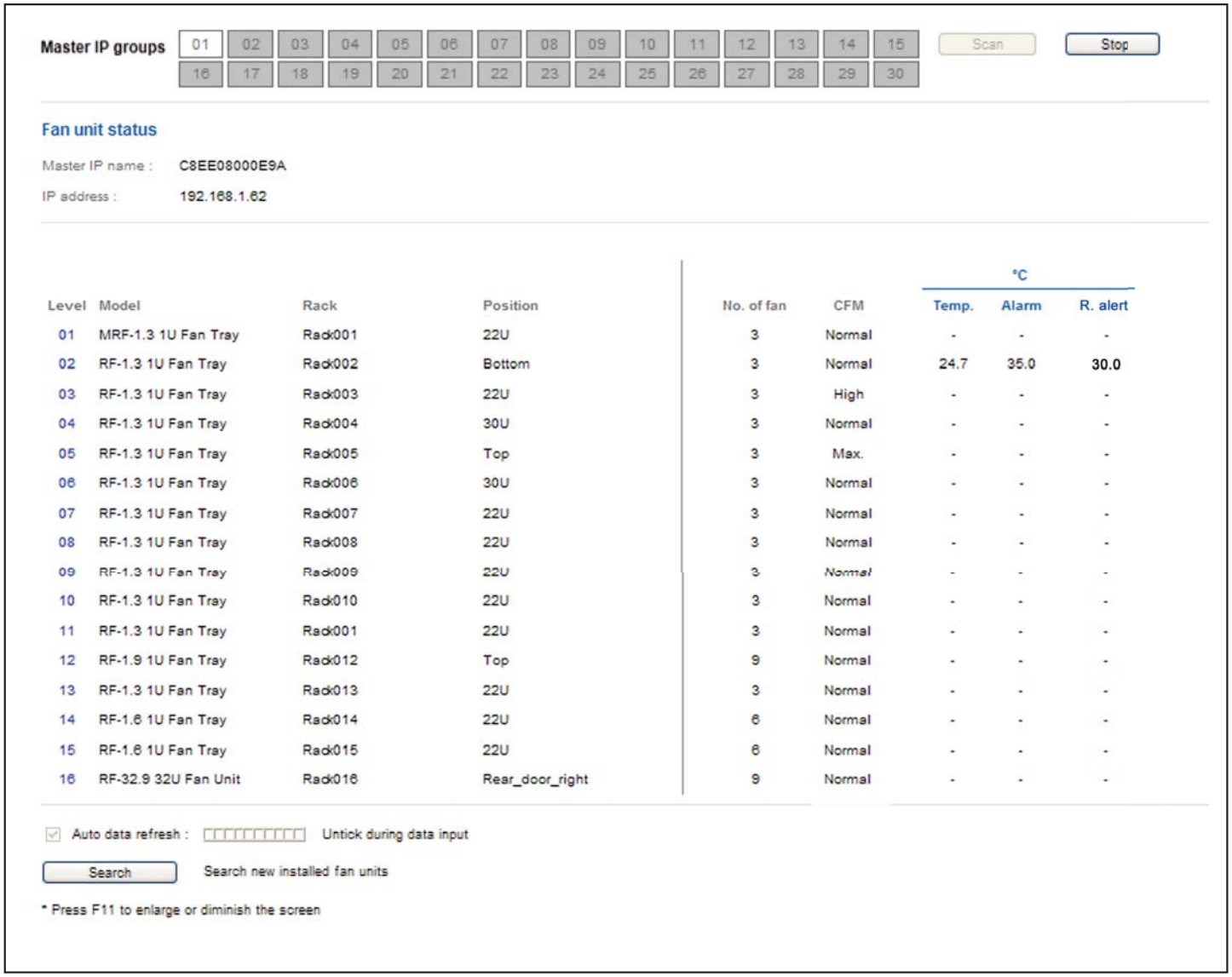
Step 4. System authentication page pops up automatically.
Input " **User name** ", " **Password** " & Click " **Login** "



Part V. Software Usage & Operation

< Status > provides

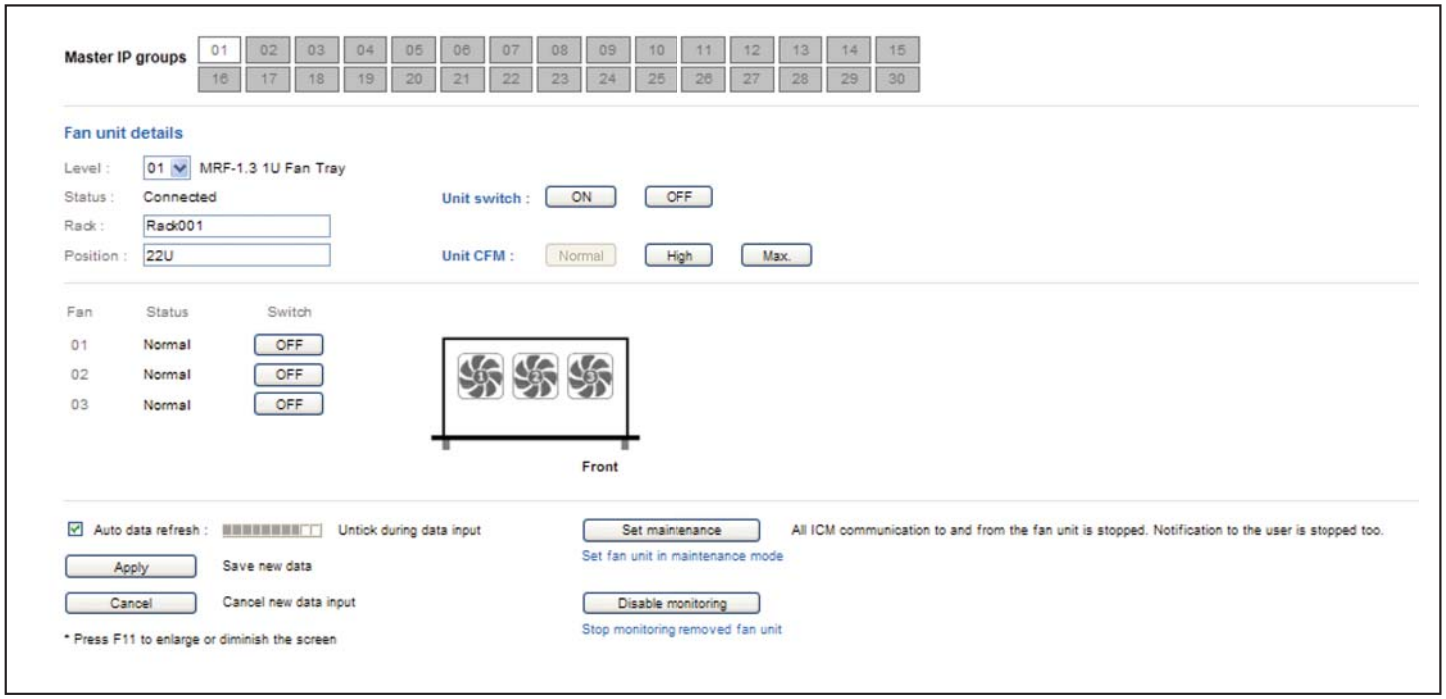
- **< Search >** function to search new installed fan units in each Master IP group.
- Scan function to monitor the fan units' status of each Master IP group **ONE by ONE**


Master IP groups
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
Scan
Stop
Fan unit status
Master IP name : C8EE08000E9A
IP address : 192.168.1.62
°C
Level Model Rack Position No. of fan CFM Temp. Alarm R. alert
01 MRF-1.3 1U Fan Tray Rack001 22U 3 Normal - - -
02 RF-1.3 1U Fan Tray Rack002 Bottom 3 Normal 24.7 35.0 30.0
03 RF-1.3 1U Fan Tray Rack003 22U 3 High - - -
04 RF-1.3 1U Fan Tray Rack004 30U 3 Normal - - -
05 RF-1.3 1U Fan Tray Rack005 Top 3 Max. - - -
06 RF-1.3 1U Fan Tray Rack006 30U 3 Normal - - -
07 RF-1.3 1U Fan Tray Rack007 22U 3 Normal - - -
08 RF-1.3 1U Fan Tray Rack008 22U 3 Normal - - -
09 RF-1.3 1U Fan Tray Rack009 22U 3 Normal - - -
10 RF-1.3 1U Fan Tray Rack010 22U 3 Normal - - -
11 RF-1.3 1U Fan Tray Rack001 22U 3 Normal - - -
12 RF-1.9 1U Fan Tray Rack012 Top 9 Normal - - -
13 RF-1.3 1U Fan Tray Rack013 22U 3 Normal - - -
14 RF-1.6 1U Fan Tray Rack014 22U 6 Normal - - -
15 RF-1.6 1U Fan Tray Rack015 22U 6 Normal - - -
16 RF-32.9 32U Fan Unit Rack016 Rear_door_right 9 Normal - - -
Auto data refresh :
Untick during data input
Search
Search new installed fan units
* Press F11 to enlarge or diminish the screen

Part V. Software Usage & Operation

In < Details >,

- Change “ Rack “ and “ **Position** ” of Fan unit
- Switch ON / OFF fan unit
- Change fan unit CFM
- Switch ON / OFF individual fan
- Click “ **Apply** ” to finish the above settings


Master IP groups
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15
16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
Fan unit details
Level : 01 MRF-1.3 1U Fan Tray
Status : Connected
Rack : Rack001
Position : 22U
Unit switch : ON OFF
Unit CFM : Normal High Max.
Fan Status Switch
01 Normal OFF
02 Normal OFF
03 Normal OFF
Front
Auto data refresh : Untick during data input
Apply Save new data
Cancel Cancel new data input
* Press F11 to enlarge or diminish the screen
Set mainienance All ICM communication to and from the fan unit is stopped. Notification to the user is stopped too.
Set fan unit in maintenance mode
Disable monitoring
Stop monitoring removed fan unit

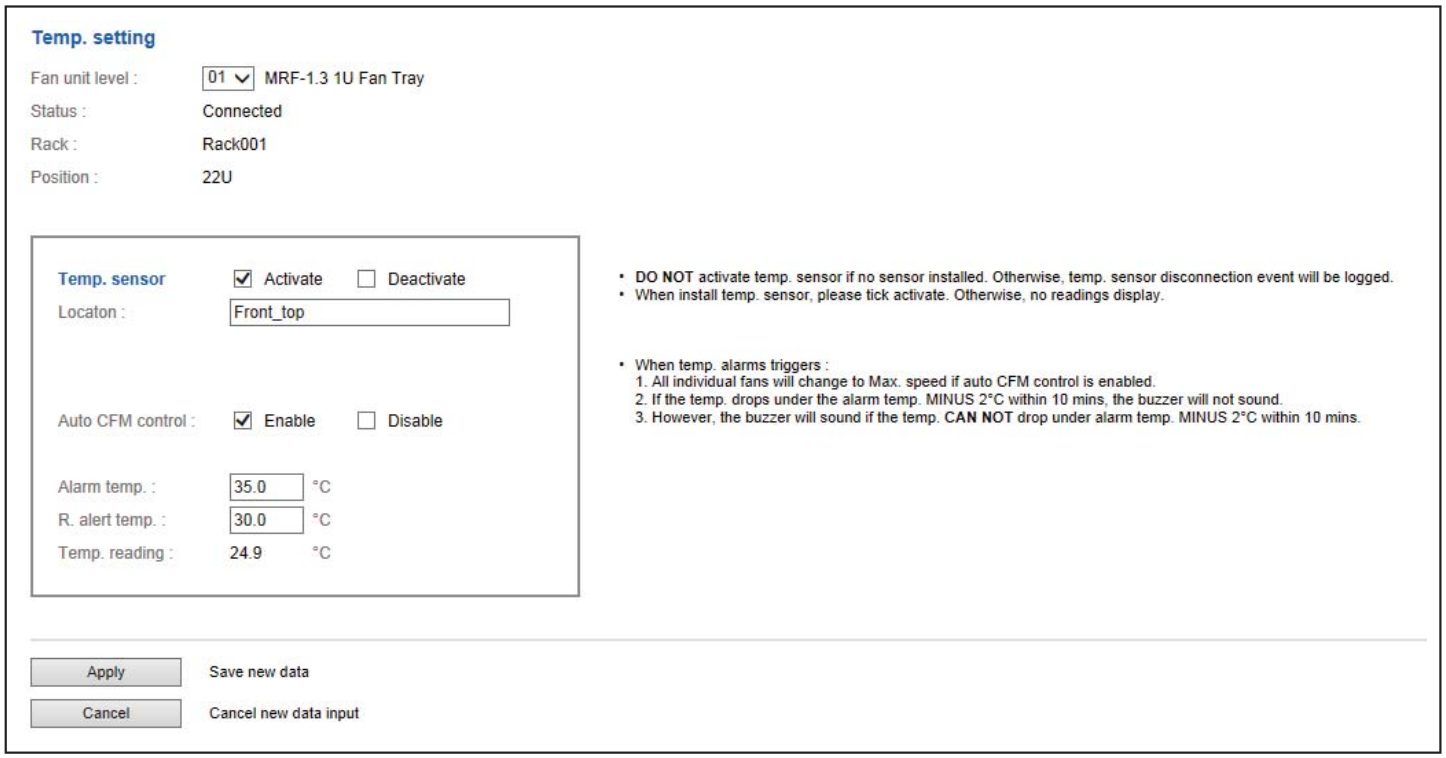
Part V. Software Usage & Operation

In < **Temp setting** >,

- " **Activate** " or " **Deactivate** " Temp sensor
- Change " **Location** ", "**Alarm Setting** " & " **R. alert setting** " of Temp sensor
- " **Enable** " or " **Deactivate** " auto CFM control
- Click " **Apply** " to finish the above settings

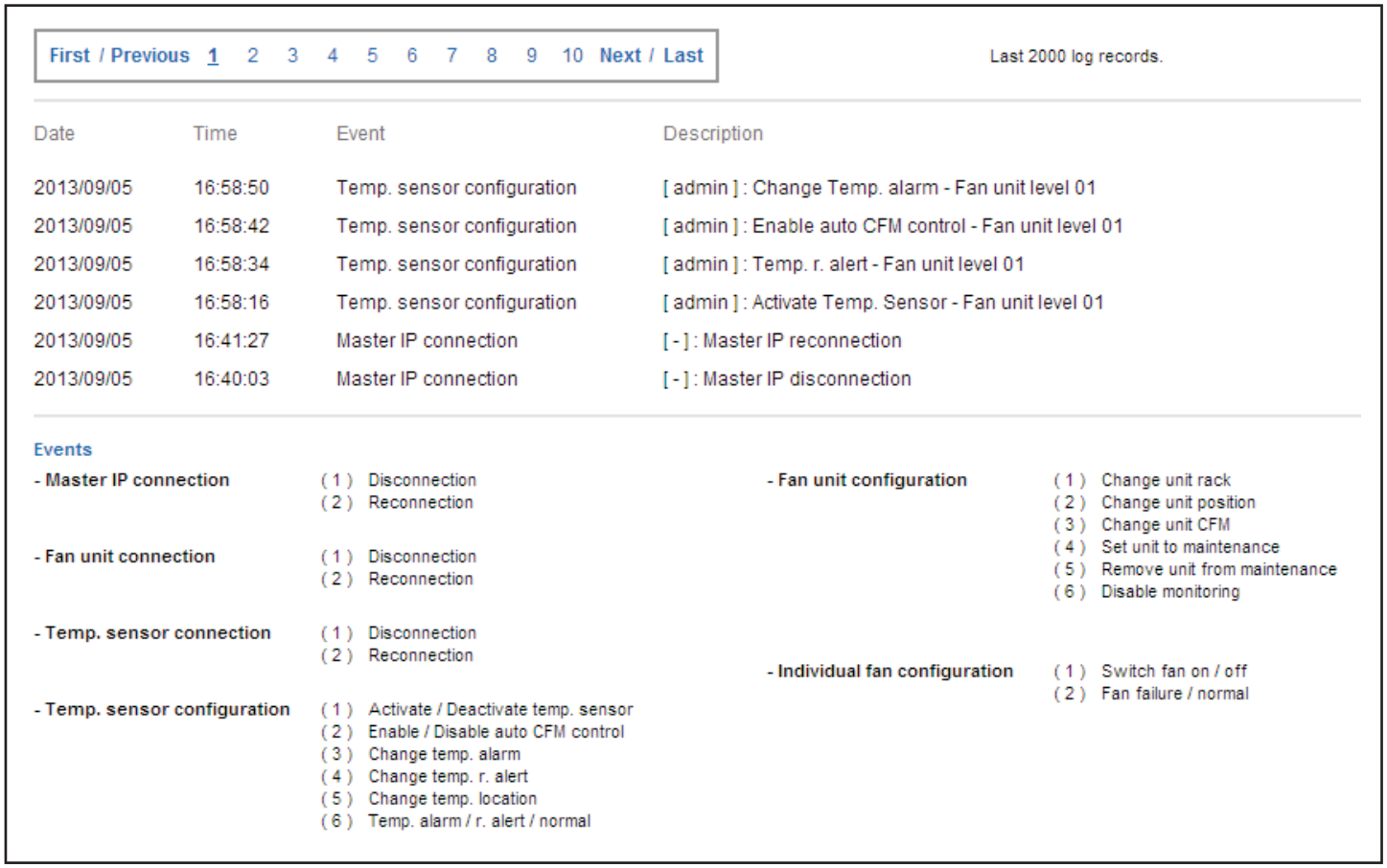
The default Temp setting is Deactivate .

- When install Temp sensor, please tick Activate . Otherwise, no readings display.
- DON'T activate Temp sensor if no sensor installed.



Part VI. Events / Log / Report

< Event > provides past 2000 events about FAN unit's configuration & connection in a certain Master IP Group.



First / Previous 1 2 3 4 5 6 7 8 9 10 Next / Last

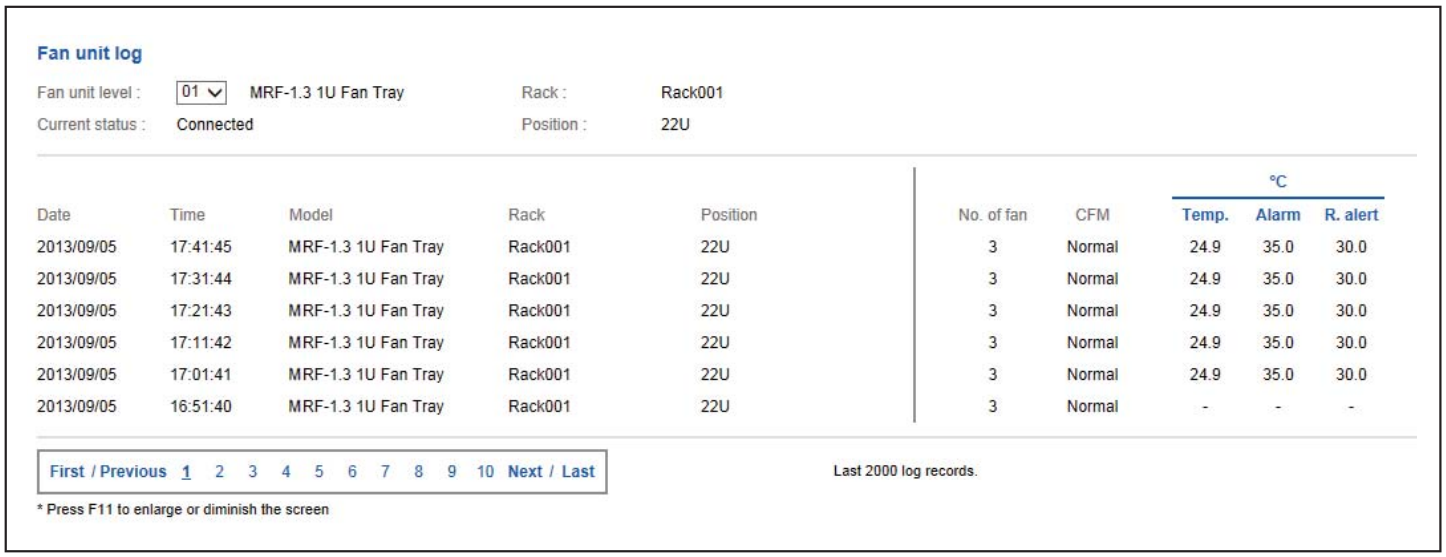
Last 2000 log records.

Date	Time	Event	Description
2013/09/05	16:58:50	Temp. sensor configuration	[admin] : Change Temp. alarm - Fan unit level 01
2013/09/05	16:58:42	Temp. sensor configuration	[admin] : Enable auto CFM control - Fan unit level 01
2013/09/05	16:58:34	Temp. sensor configuration	[admin] : Temp. r. alert - Fan unit level 01
2013/09/05	16:58:16	Temp. sensor configuration	[admin] : Activate Temp. Sensor - Fan unit level 01
2013/09/05	16:41:27	Master IP connection	[-] : Master IP reconnection
2013/09/05	16:40:03	Master IP connection	[-] : Master IP disconnection

Events

- **Master IP connection**
  - (1) Disconnection
  - (2) Reconnection
- **Fan unit connection**
  - (1) Disconnection
  - (2) Reconnection
- **Temp. sensor connection**
  - (1) Disconnection
  - (2) Reconnection
- **Temp. sensor configuration**
  - (1) Activate / Deactivate temp. sensor
  - (2) Enable / Disable auto CFM control
  - (3) Change temp. alarm
  - (4) Change temp. r. alert
  - (5) Change temp. location
  - (6) Temp. alarm / r. alert / normal
- **Fan unit configuration**
  - (1) Change unit rack
  - (2) Change unit position
  - (3) Change unit CFM
  - (4) Set unit to maintenance
  - (5) Remove unit from maintenance
  - (6) Disable monitoring
- **Individual fan configuration**
  - (1) Switch fan on / off
  - (2) Fan failure / normal

< FAN unit log > provides past 2000 FAN unit log records about a certain FAN unit by the user's selection. The software will generate a FAN unit log record in every 10 mins.



Fan unit log

Fan unit level : 01 MRF-1.3 1U Fan Tray Rack : Rack001

Current status : Connected Position : 22U

Date	Time	Model	Rack	Position	No. of fan	CFM	°C Temp.	°C Alarm	°C R. alert
2013/09/05	17:41:45	MRF-1.3 1U Fan Tray	Rack001	22U	3	Normal	24.9	35.0	30.0
2013/09/05	17:31:44	MRF-1.3 1U Fan Tray	Rack001	22U	3	Normal	24.9	35.0	30.0
2013/09/05	17:21:43	MRF-1.3 1U Fan Tray	Rack001	22U	3	Normal	24.9	35.0	30.0
2013/09/05	17:11:42	MRF-1.3 1U Fan Tray	Rack001	22U	3	Normal	24.9	35.0	30.0
2013/09/05	17:01:41	MRF-1.3 1U Fan Tray	Rack001	22U	3	Normal	24.9	35.0	30.0
2013/09/05	16:51:40	MRF-1.3 1U Fan Tray	Rack001	22U	3	Normal	-	-	-

First / Previous 1 2 3 4 5 6 7 8 9 10 Next / Last

Last 2000 log records.

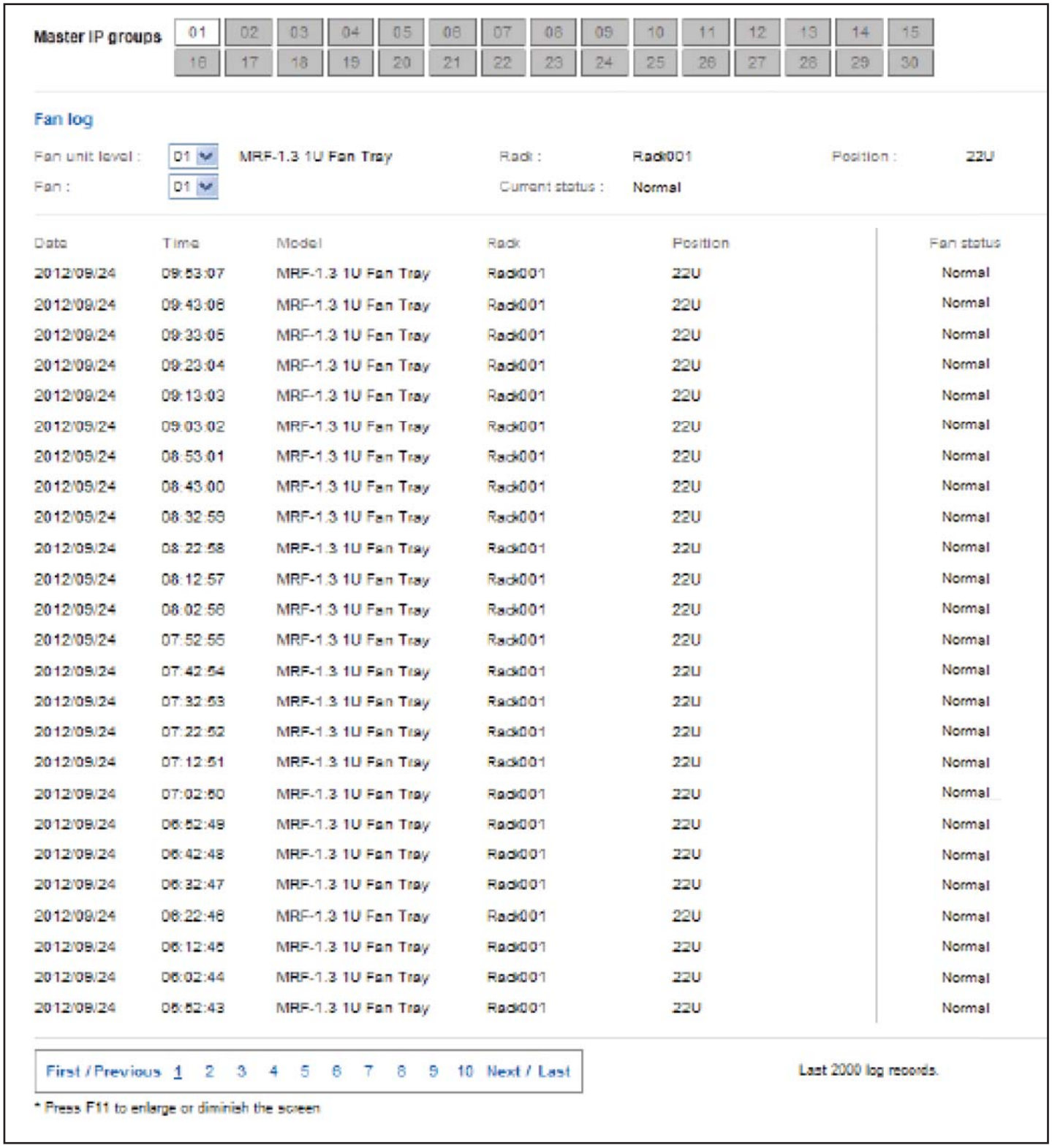
* Press F11 to enlarge or diminish the screen

www.RackmountMart.com

Part VI. Events / Log / Report

< FAN log > provides past 2000 FAN log records about an individual fan of specific fan unit by the user's selection.

The software will generate a FAN log record in every 10 mins.



Master IP groups: 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

Fan log

Fan unit level : 01 MRF-1.3 1U Fan Tray Rack : Rack001 Position : 22U

Fan : 01 Current status : Normal

Date	Time	Model	Rack	Position	Fan status
2012/09/24	09:53:07	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	09:43:06	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	09:33:05	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	09:23:04	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	09:13:03	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	09:03:02	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	08:53:01	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	08:43:00	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	08:32:59	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	08:22:58	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	08:12:57	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	08:02:56	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	07:52:55	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	07:42:54	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	07:32:53	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	07:22:52	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	07:12:51	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	07:02:50	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	06:52:49	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	06:42:48	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	06:32:47	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	06:22:46	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	06:12:45	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	06:02:44	MRF-1.3 1U Fan Tray	Rack001	22U	Normal
2012/09/24	05:52:43	MRF-1.3 1U Fan Tray	Rack001	22U	Normal

First / Previous 1 2 3 4 5 6 7 8 9 10 Next / Last Last 2000 log records.

* Press F11 to enlarge or diminish the screen

Part VI. Events / Log / Report

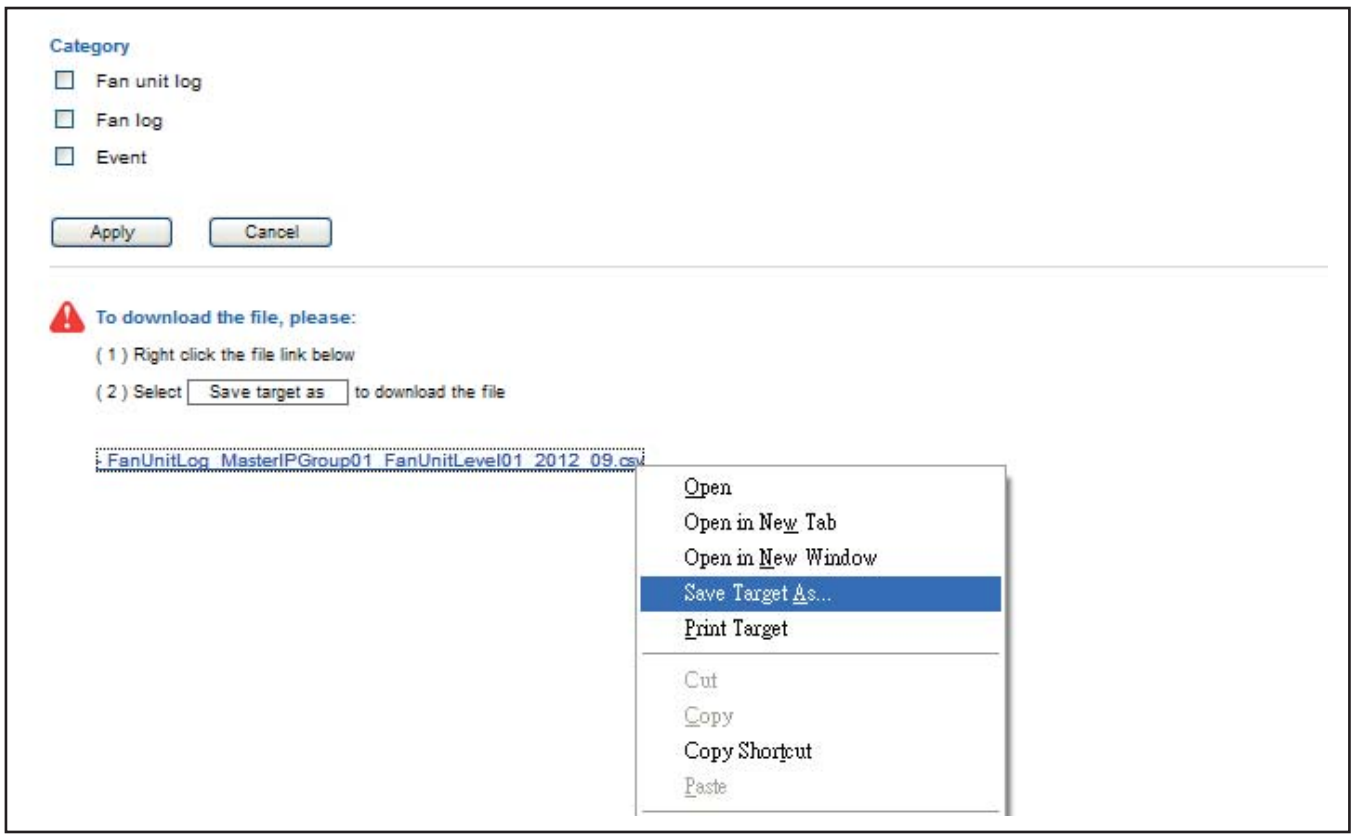
< Report > provides monthly report for Fan unit log, Fan log & Event log which can be export to csv format.

Please follow the steps below to export the log category you want :

Step 1. Select the category, period & target.

Step 2. Click " **Apply** " & Click " **OK** " from the pop up window

Step 3. Right click the file name below & select Save target as to download the log file.



Step 4. Click " **Close** " to complete or " **Open** " to view the content of log file

Complete
www.RackmountMart.com

Part VII. SNMP

SNMP Management

The Master IP fan unit can manage the connected remote fans (up to 16 remote fans), using tools that support SNMP v2c (Simple Network Management Protocol).

Only for Master IP fan unit with built-in IPD-02-S

(I). Accessing MIB Files

Use the World Wide Web (WWW) to download the SNMP MIB file at this URL:

http://www.rackmountmart.com/downloads.html

(II). Enabling SNMP Support

The following procedure summarizes how to enable the Master IP fan unit for SNMP support.

Step 1. Connect the Master IP fan unit to a computer. (Please refer to P.26)

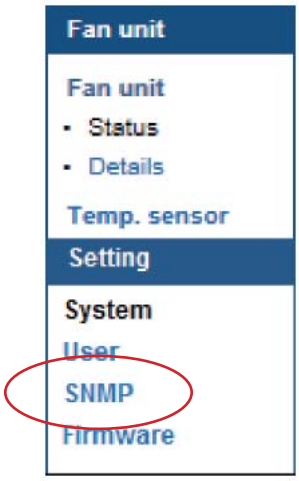
Step 2. Open the Internet Explorer (I.E.) version 7.0 or above

Step 3. Enter the configured IP dongle address into the I.E. address bar.
Default IP address is " **192.168.0.1** "

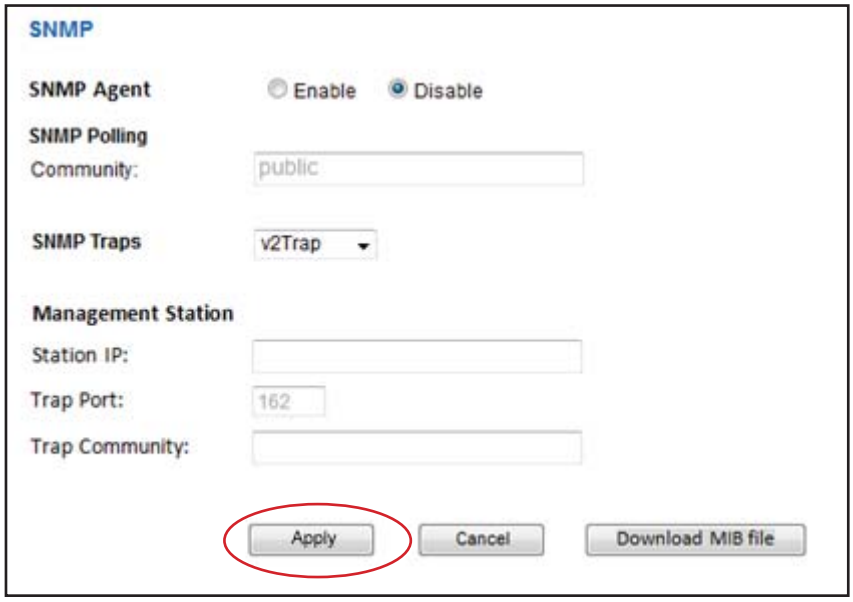
Step 4. Enter " **Login name** " & " **Password** ". Default login name & password are " **00000000** "

Part VII. SNMP

Step 5. Select the SNMP from the left navigation



Step 6. The SNMP Settings window appears as below:



Step 7. Click " **Enable** " in " **SNMP Agent** " to start the SNMP agent service

Step 8. Input " **Read Community** ". Default is " **public** "

Step 9. Input " **Write Community** ". Default is " **private** "

Step 10. Select " **disabled** " or " **V2Trap** " in " **SNMP Traps** "

If select " **V2Trap** " , please input IP address of the SNMP management station in " **Station IP:** "

Step 11. Click " **Apply** " to finish the SNMP settings

< Part VIII > FAQ

1. What is ICM-02?
The InfraCool Manager is a Windows based system to consolidate management of max. 480 FAN units via 30 Master IP groups, using a simple web interface which monitors temp. status of cabinets in the data center. It also provides the detailed FAN unit and event logged records, and sends alarm email once temp. over alarm level.
Please find the link below:

http://www.rackmountmart.com/downloads.html

2. Which OS platform does ICM-02 support?
- MS Windows XP Professional with SP3 (32bit only)
- MS Windows 7 Professional with SP1
- MS Windows 7 Ultimate with SP1
- MS Windows Server 2003 R2 Standard Edition with SP2
- MS Windows Server 2008 Standard Edition SP2
- MS Windows Server 2008 R2 Standard Edition SP1

Ensure the user logins in the management PC as a member of "Administrators" Group before ICM-02 Installation and execution.

3. Which database does the ICM-02 support?
PostgreSQL

4. What is the PostgreSQL default password for ICM-02?
1qaz2WSX

5. How can I receive alarm email and get full log report?
Ensure that ICM-02 is executed and the alarm server is configured properly and being enabled.

6. What is the default login name & password of ICM-02?
Default login name "admin" & password "00000000"

7. What is the command password of ICM-02?
Each Master IP Group has its command password. It will be requested for any FAN unit configuration and control. The administrator can set different command password for different Master IP Group or all Master IP Groups use the same password.

8. The FAN units can't be found by ICM-02?
Please double check the cable connection and the level setting of each FAN unit. If a cascade chain has duplicate the level FAN units, it will cause this problem.

9. Is it possible to manage the FAN units from different workstations?
Yes, the InfraCool manager supports 5 concurrent login users from different workstations.

< Part VIII > FAQ

Master IP fan unit

1. What is the Master IP fan unit?
The Master IP fan unit has a built-in IP dongle which provides a simple and economical way to consolidate management of max. 16 remote FAN units, by a single IP connection to the network.

2. What is the IP setup utilities?
This is a windows application used to assign the IP address of Master IP fan unit. You can download the IP setup utilities from the link below:

http://www.rackmountmart.com/downloads.html

3. Does the Master IP fan unit support DHCP (Dynamic Host Configuration Protocol)?
No, the Master IP fan unit only works with static IP-address.

Temp. sensor

1. How accurate is the Temp. sensor?
It is accurate to ± 1.5°C (typical).

2. How to install the Temp. sensor ?
Plug in the Temp. sensor to the temp. port of the FAN unit at any time.

Others

1. Where can I find the Catalogue / User manual /Model list / Wire diagram of your FAN units?
Please visit the www.RackmountMart.com

2. How can we get a further support?
Please send the email to support@rackmountmart.com or sales@rackmountmart.com

< Part IX > Troubleshooting

FAN unit disconnection

1. GUI shows a certain level remote fan unit disconnected (Except Master IP fan unit)

Step 1 - Remote fan unit power off ?

Check the remote fan unit is power ON or not.

Step 2 - Fan unit level setting duplicated in the same Master IP group?

Check and make sure fan unit level is unique and not duplicated in the same Master IP group.

(Please refer to user manual < 2.5 > for the fan unit level setting)

2. GUI shows from a certain level remote fan unit to the last one disconnected (Except Master IP fan unit)

Step 1 - Cable disconnected, loose or defective ?

Check the Cat. 5 / 6 cable connection between remote fan units. Make sure the connectors are firmly attached. And check if any defects on your cables or not. If yes, replace a new one.

Step 2 - The first disconnected remote fan unit failed ?

Unplug the Cat. 5 / 6 cable on the first disconnected remote fan unit, then plug it to the second disconnected remote fan unit to check if the problem caused by the first disconnected remote fan unit.

3. GUI shows the whole group of remote fan unit(s) disconnected

Step 1 - Cable disconnected, loose or defective ?

Check the Cat. 5 / 6 cable connection to remote fan units and network devices. Make sure the connectors are firmly attached. And check if any defects on your cable or not. If yes, replace a new one.

Step 2 - Master IP fan unit failed ?

i. Check if the network setting of the Master IP fan unit is correct or not. If duplicate IP address is in the network, it may cause such problem.

ii. Disconnect the Master IP fan unit from the network and try to direct connect the Cat. 5 / 6 cable from the **<IP>** port to a computer network port and use IP Setup utilities to check if the Master IP fan unit can be found or not. If it cannot be found, the Master IP fan unit may be failed.

Replacement, removal or addition for remote FAN unit

1. How to replace the failed Master IP fan unit with a new one ?

Step 1 - Prepare a new Master IP fan unit and set it to 1st level.
(Please refer to user manual < 2.5 > for the fan unit level setting)

Step 2 - Disable alarm email in **<Alarm>** page.

Step 3 - Power off & remove the failed Master IP fan unit from connection.

Step 4 - Install the new Master IP fan unit to the connection & power it on.

Step 5 - Click Start Connection in **<Status>** page for the relevant Master IP Group.

Step 6 - Configure the new Master IP fan unit in **<Details>** & **<Temp. sensor>** page such as **Rack**, **Position**, **Alarm Temp**...

Step 7 - Enable alarm email in **<Alarm>** page.

2. How to replace a failed certain level remote fan unit with a new one ?

Step 1 - Prepare a new remote fan unit and set the remote fan unit level accordingly.
(Please refer to user manual < 2.5 > for the fan unit level setting)

Step 2 - Prepare an appropriate length Cat. 5 / 6 cable.

Step 3 - Click Set maintenance in **<Details>** page for the failed remote fan unit.

Step 4 - Use a Cat. 5 / 6 cable to bridge over the failed remote fan unit which will be replaced to minimize log / data loss.

Step 5 - Power off & remove the failed remote fan unit from connection.

Step 6 - Install the new remote fan unit, cancel the cable-bridging and reconnect the remote fan unit to the last and next one.

Step 7 - Power on the new remote fan unit.

Step 8 - Click Remove maintenance in **<Details>** page for the new remote fan unit.

Step 9 - Configure the new remote fan unit in **<Details>** & **<Temp. sensor>** page such as **Rack**, **Position**, **Alarm Temp**...

Ignore step 2 & 4 if the failed remote fan unit is in the last level.

Replacement, removal or addition for remote FAN unit

3. How to move out a remote fan unit (without a replacement) ?

Step 1 - Prepare an appropriate length Cat. 5 / 6 cable.

Step 2 - Click Disable monitoring in **<Details>** page to stop monitoring the removed remote fan unit.

Step 3 - Use the Cat. 5 / 6 cable to bridge over the removed remote fan unit to minimize log / data loss.

Step 4 - Power off & remove the fan unit from connection.

If the removed remote fan unit NOT in the last level, you MUST reconfigure and reset the level for the affected remote fan unit(s) which next to the removed remote fan unit.

Ignore step 1 & 3 if the removed fan unit is in the last level.

4. How to add an extra remote fan unit to an existing fan unit group ?

Step 1 - Prepare a new remote fan unit and set the remote fan unit level accordingly.
(Please refer to user manual < 2.5 > for the fan unit level setting)

Step 2 - Prepare an appropriate length Cat. 5 / 6 cable.

Step 3 - Click Set maintenance in **<Details>** page for the affected remote fan unit(s) which next to the added remote fan unit.

Step 4 - Install, connect and power on the new remote fan unit.

Step 5 - Reconfigure & reset the level for the affected remote fan unit(s) which next to the added remote fan unit.

Step 6 - Click Remove maintenance in **<Details>** page for the affected remote fan unit(s).

Step 7 - Click Search in **<Status>** page to search the new installed remote fan unit.

Step 8 - Configure the new remote fan unit in **<Details>** & **<Temp. sensor>** page such as **Rack**, **Position**, **Alarm Temp**...

Ignore step 3, 5 & 6 if the added remote fan unit is in the last level.

< Part IX > Troubleshooting

InfraCool Manager ICM-02

1. Try to login InfraCool Manager ICM-02 but the web browser only shows " HTTP 404 Not Found "

Step 1 - Services for Web server in management PC started ?

Make sure the services is started. Go to Control Panel -> Administrative Tools -> Services -> Apache2.2 and make sure the status is " Started ".

Step 2 - Port for web server in management PC is occupied by other service ?

Check if the port for web server is used by other service. If yes, please release the port of that particular service and assign another port for it.

Step 3 - Port for web server is added in the firewall of management PC ?

Check if the port is added in the firewall. If not, please add and enable the connection in the firewall. Please refer to user manual < 4.2 > for details.

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